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THE QUEENSLAND NATURALIST

JOURNAL OF THE
QUEENSLAND NATURALISTS' CLUB
AND
NATURE-LOVERS' LEAGUE

"The Poetry of Earth is never dead."—KEATS.

The Author of each Article is responsible for the statements expressed therein

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The Queensland Naturalists' Club
AND
Nature Lovers' League

Official Journal—The Queensland Naturalist.

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Hon. Auditor: Mr. C. W. Holland.

Hon. Editor, Naturalist: Mr. S. T. Blake
(Botanic Gardens, Brisbane).

SUBSCRIPTIONS:

Ordinary Members	.. ..	10s. per annum
Country Members	.. ..	5s. per annum
Junior Members	.. ..	5s. per annum

Nature-Lovers' Certificate, 2d.

MEETINGS:

Evening Meetings are held at the Brisbane Women's Club Rooms
Edwards Dunlop Buildings, Edward Street
on the Third Monday of every Month.
Excursions are held once or twice a month from March to December.

THE

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Vol. xiii May, 1946 No. 1

PROCEEDINGS

ANNUAL MEETING, 19th February, 1945.—The chair was occupied by the President, Miss H. Clarke, and about 50 members were present. The excursion from Ferny Grove to Kepeera was reported on by Miss Holland, Miss MacCallum and Mr. Blake. The Annual Report, read by the Honorary Secretary, showed that ten evening meetings, nine field excursions and seven Council meetings had been held during the year. Twenty-two new members had been elected and five resignations had been received. The Honorary Excursion Secretary reported that nine half-day excursions and an Easter week-end excursion had been held. The financial statement, read by the Honorary Treasurer, showed a credit balance of £83/1/7. The Hon. Librarian's report, read by the Hon. Secretary, showed that increased interest had been taken in the library. The following office-bearers were elected: President, Mr. W. Arundell; Vice-Presidents: Miss M. Holland and Mr. G. H. Barker; Hon. Secretary, Miss E. E. Baird; Hon. Treasurer, Miss E. N. Marks; Hon. Excursion Secretary, Mr. G. H. Barker; Hon. Librarian, Mrs. G. L. Jackson; Hon. Lanternist, Mr. W. J. Sanderson; Hon. Editor, Mr. S. T. Blake; Committee, Dr. E. O. Marks, Dr. D. A. Herbert, Mr. C. T. White, Mr. G. L. Jackson; Hon. Auditor, Mr. C. W. Holland. Mr. Arundell then took the chair and Miss Clarke delivered her Presidential Address, "Let's to the Forest."

Mr. J. E. Young tabled the skeleton of a frogmouth; Miss Earnshaw exhibited a diseased dahlia stem; and sketches and photographs of trips held by the National Parks Association were exhibited by Miss Clarke.

EVENING MEETING, 19th March, 1945.—The President, Mr. W. Arundell, occupied the chair, and about 60 members were present. Mr. Noel Frazer was elected to ordinary membership and Kenneth Wace, Leslie Wace, and Ivor Filmer were elected to junior membership. The excursion to Saint Lucia was reported upon by Mr. C. T. White with an exhibit of several plants, by Master Ivor Filmer who reported twenty-nine birds, and by Master Garth Filmer, who showed spiders and a phasmid. Mrs. G. L. Jackson exhibited a siliceous sponge. Mr. A. R. Brimblecombe gave a lecture on "Plant Resistance as a means of Insect Control."

EVENING MEETING, 16th April, 1945.—The President, Mr. W. Arundell, occupied the chair and about 50 members were present. Mr. Guymer was elected to ordinary membership and Master Garth Filmer to junior membership. The Hon. Librarian expressed thanks to Miss MacCallum for the gift of the book "Place Names in Queensland, New Zealand and the Pacific" and to Miss Trundle for "Orchids of Victoria." Reports on the Easter camp at Camp Mountain were given by Dr. E. O. Marks (geology), Mr. C. T. White (botany), Ivor Filmer (ornithology), and Miss E. N. Marks (entomology). Mr. C. T. White reported on the afternoon excursion to Kingston. Mr. J. E. Young spoke of bora rings. Miss Holland reported having seen a flying-fox at 4 p.m. at Toowong. Exhibits were tabled by Dr. Marks (specimens of granite and gold-ore from Camp Mountain), Mr. White (plants from the neighbourhood of Camp Mountain), Miss Marks (a may-fly from Camp Mountain and a cup moth case from Kingston), Mr. Rowley (photographs of the Easter excursion), Mrs. Jackson (a land-shell from Tamborine Mountain), and Mr. Carlton (a spray of thorn-apple).

EVENING MEETING, 21st May, 1945.—The chair was occupied by the Vice-President, Miss M. Holland, and about 75 members and friends were present. Miss Dilger was elected to membership. and Messrs. Archer and Mulholland were elected to country membership. Mr. A. Nipius, a former resident of Java, showed a series of films, "A Trip to the Lime Terraces in Sumatra," "Tea Factory," "The Historic Monuments of Buruldur in Java," and a film illustrating life in Java under Dutch government. Mr. J. E. Young tabled two flowers of different colours from one and the same plant of Hibiscus.

EVENING MEETING, 21st June, 1945.—The chair was occupied by the President, Mr. W. Arundell, and about 33 members were present. Mr. C. T. White spoke of the death of Mr. Franzen, and a minute's silence was observed. Reports of the week-end excursion to Tamborine Mountain were given by Mr. Blake (botany), Mr. Hines (chemical properties of some of the plants), and Mr. Robertson (ornithology). The excursion to Sunnybank on 19th May was discussed by Mr. White (botany) and Mr. Harley (ornithology). The excursion to Kenmore and Lone Pine on King's Birthday holiday was reported upon by Mr. Blake (botany), and Mr. Filmer and others (ornithology). The Hon. Librarian thanked Mr. Barker for the gift of several books. A seed of *Barringtonia speciosa* found at Jumpin-pin was tabled. Mr. Filmer exhibited a disused bird's nest and a frogmouth's skull. A snake-skin from Tamborine Mountain was also exhibited. The good wishes of the Club were expressed by Dr. Marks to Mr. White on the eve of his departure for the Solomon Islands.

EVENING MEETING, 16th July, 1945.—The President, Mr. Arundell, occupied the chair, and about 30 members were present. Reports on the excursion from Lota to Manly were given by Dr. Marks (geology) and Mr. Filmer (ornithology). Mr. Sanderson screened a series of films kindly lent by the Department of Public Instruction; these dealt with mosquitoes, with the different homes made by birds, how oysters grow, "nature's armour," adopting a bear cub, and a fight between a mongoose and a cobra.

EVENING MEETING, 20th August, 1945.—The President, Mr. W. Arundell, occupied the chair, and about 40 members were present. Mr. Fitzgerald and Mr. Boardman were elected to membership. Reports on the monthly excursion from Darra to Oxley were given by Mr. Barker (ornithology and botany) and Mr. Blake (botany). Mr. S. T. Blake gave a lecture entitled "A Botanist in lesser known parts of Queensland," illustrated by means of photographs and the epidiscope. Mr. Barker tabled the book, "British Birds and their Haunts," by C. A. Johns, published in 1900.

EVENING MEETING, 17th September, 1945.—The President, Mr. W. Arundell occupied the chair and about

40 members were present. Mr. Tipping, of Eumundi, and Miss E. R. Smith were elected to membership. The President and Mrs. Blades reported on the excursion to Sunnybank. The remainder of the evening was devoted to an exhibit of native flowers, both wild and cultivated. Mr. Dunn also exhibited a hybrid orchid.

EVENING MEETING, 15th October, 1945.—The President, Mr. W. Arundell, occupied the chair, and about 60 members were present. Reports of the monthly excursion were deferred to next meeting. Miss J. Hislop was elected to membership. By courtesy of the Shell Company, a series of films were shown, including pictures of the Great Barrier Reef, the lyre-bird, and other nature studies.

EVENING MEETING, 19th November, 1945.—The Vice-President, Mr. G. H. Barker, occupied the chair, and about 55 members were present. The October outing from Ferny Grove to Kepeera was reported upon, chiefly by the ornithologists. Miss Coxen reported on the November outing to Sandgate. Mr. Boardman gave a lecture on "The Biology of Fingerprints."

ANNUAL REPORT FOR YEAR ENDING FEBRUARY, 1945

Ladies and Gentlemen,

The Council of the Queensland Naturalists' Club presents the Annual Report on the work of the Club.

The various activities of the Club have been pursued during the year, birds and plants being the most popular.

MEETINGS.—There have been ten (10) evening meetings, nine (9) field excursions and seven (7) Council meetings during the year. Attendance at Council meetings has been as follows:—Miss Clarke 5, Mr. Arundell 6, Mr. Wright 3, Miss Baird 7, Mrs. Jackson 4, Miss Marks 6, Mr. Barker 6, Miss Holland 2, Mr. Marks 7, Dr. Herbert 3, Mr. Jackson 5, Mr. Sanderson 5, Mr. Blake 6, Mr. White 6.

Attendance at evening meetings has been good, the average being 48. The evening meetings have been varied, some being entirely devoted to exhibits; others to lectures, while at two—the March and July meetings films were shown. The lecturers included Mr. E. Rick and Mr. Gray. The September meeting was, as usual, devoted to exhibits of Wildflowers and the October one to Bird Study. Exhibits were tabled by many members including Mr. White, Dr. Marks, Dr. Herbert, Mr. Blake, Mr. Schofield, Mr. J. E. Young, Mr. Barker, Miss Marks, Miss Holland and Mr. Harley.

Reports of the Easter Camp were given at the April meeting and reports of each field excursion at the following meeting. Interesting specimens were tabled at each meeting by various members and reports on them given.

MEMBERSHIP.—Twenty (20) new members have been admitted during the year and five (5) resignations were received. There are now 170 members of the Club. It is with great regret that the death of Mr. J. Nebe is recorded.

NATURE LOVERS' LEAGUE.—Very little work has been done.

QUEENSLAND NATURALIST.—It is regretted that no issue of the magazine has been published this year.

GENERAL.—Protests about the condition of the Botanic Gardens, the Sherwood Arboretum and the Chelmer Swamp have been made and improvements have been promised.

REPORT OF LIBRARIAN FOR 1944

During the year about 190 magazines and 180 books have been lent to town members. A number of magazines and pamphlets have also been sent to country members.

The number of books circulated shows a decided increase on last year, owing to several very welcome additions to the Library, for which thanks are due to Mr. G. H. Barker, who presented five very fine books, to Miss E. E. Baird and others.

F. M. JACKSON,
Hon. Librarian.

REPORT OF HON. EXCURSION SECRETARY, 1944

Nine ordinary half-day outings were set down for the past season, and for the most part were much enjoyed by those who attended. The one arranged for June, a full day's outing to Gordon's Crossing, had to be abandoned owing to rain. Two others were held on rainy days. One of these to Salisbury in September was only attended by a few enthusiasts who were keen to collect some botanical specimens for the Flower Show held on the following Monday. The other to the Sherwood Arboretum which started in fine weather, with quite a good roll up of Members, found us floundering round in long wet grass and steady rain long before we had completed our survey. However, Dr. and Mrs. Gifford Croll came to our rescue with hot cups of tea and much cake in the shelter of their boathouse until the rain eased off, and the day in the end was voted a complete success. The thanks of the Club were tendered to them both by the President and several supporters.

In April Mr. White led a party of about 15 to the Woogaroo Scrub at Goodna, a very rich area in the early days of the Club but one which settlement has greatly disturbed in recent years, and is now inundated with lantana which has and is now taking possession of large tracts of our former happy hunting ground.

In May we went to Ferny Grove and thoroughly traversed the area and the Kepeera Golf Course and the Bora Rings and found many birds and plants flowering even at the station.

Perhaps the most educative afternoon was the one spent at the Darra Cement Works in July which attracted about 50 of our members and friends. A thorough survey of the whole place in parties under the guidance of the resident engineer, Mr. H. Ferrett and his helpers, was made. The ladies particularly seemed to be interested in the noisy ball mills and climbed into awful looking nooks and corners in order to see everything.

In August we journeyed from Woodridge and Kuraby on mostly a botanical afternoon and secured some treasures in the way of unusual Ground Orchids and Boronia. Nudgee to Virginia in October was an excellent Bird ramble, and the Geologists found interest at several points en route, and a number of flowering trees were recorded by Mr. White.

The last Excursion was led by Dr. Marks from Shorncliffe to the Sandgate Lagoons, and again Geologists spent a very interesting afternoon guided by the Doctor. At the lagoons the Bird men took over and finished off what was voted a very successful outing. In these days of limited means of travel, Sandgate remains a great stand-by to the Club, and we must be ever on the alert to watch that no mercenary trades people or others ever interfere with Sandgate lagoons and thus drive away the Bird Life which is so great an attraction there.

This report would certainly not be complete if I missed reporting our major outing of the year, the Easter Camp at Camp Mountain where at the kind invitation of Dr. Marks and family we were privileged to gather together for four days in sylvan surroundings, with excellent hosts and pleasant company and to remember how fortunate we were and are in these awful days of storm and stress, to be able to get back to Nature for a space of even a few days.

May we then join with Robert Louis Stevenson in his thanks to the Giver of every good thing. For summer sun and winter rain and the joy of sea and sky and of forest and of plain, for moon and stars, for light and shade, for the beauty splendour of earth and cloud. For the everchanging colour of flowers, fruit and trees, and above all for the good fellowship amongst us. May we ever remember that all these are Thy gifts to us and be thankful. Amen.

GEO. T. BARKER,
Hon. Camp Secretary.

"LET'S TO THE FOREST"

By Miss H. Clarke

(Presidential address delivered before the Queensland Naturalists' Club, 19th February, 1945)

As you know, it is the custom of the Club to inflict on the Past President the task of giving the first lecture of the year. Therefore while you have the satisfaction of making the Past President pay the penalty for holding office, you must realise that what you sow in Presidents, you reap in lectures.

It is very encouraging for the future of our Club to find that the increase in Membership this year is mostly in young people, and I hope their enthusiasm for and interest in Natural History and the Club will grow as the years pass by. For the benefit of these new young members, though our movements at present are restricted by

Our paths are not always exciting!
STONE COMING and SNAKE!
Mostly we just amble along!

"LET'S TO THE FOREST"

the war, in the past we were able to roam much further afield and we have held camps in many wonderful places; as soon as conditions permit and we can again acquire tents and the means to travel, these times will come again. It was because of this that my attempt at a lecture to-night will be more in the nature of a travel talk.

Also in these days of mass murder and other stupid obscenities, and the never-ending pressure of boring futilities upon us, it is a most important task for us all to rise above these dreary horrors if we are to survive as whole as we can mentally and spiritually, as we have survived physically here in Australia. That is my other reason why to-night I am taking you wandering into the forest where the strange species to which we belong, can find expression for the virtues of harmlessness, love of living things, co-operation for service, appreciation of beauty, acquirement of knowledge in other words, where one can feel and be a real human being with dignity and freedom, instead of a thing caught in the mechanistic materialism of this breaking civilisation.

The photos shown to-night were taken in the Lamington National Park, a few in Conondale National Park and some along the Little Yabba Creek in the Maleny district, localities we have camped in at different times. Most are of the Lamington National Park, which is a naturalist's paradise, and includes a wide variety of country in its boundaries, scrub or rain forest, open forest country, curious rocks, deep gorges, great high cliffs, creeks and waterfalls innumerable and the thick vegetation is the home of many different birds and animals.

Before taking to the forest however, here are some photos and drawings of some Club Camps, each with its own particular flavour in our memories—we have slept in buildings, tents, and sleeping-bags round a camp fire, though the last is not generally a Club method, but you can learn some natural history even in a sleeping-bag. One night we were sleeping on a slope some few feet backward from the top of a precipice many hundreds of feet high, gentle rain had seeped down through the trees upon us for some uncomfortable hours when suddenly the wind came. It hit the cliff face below us with terrific force and the unyielding cliff turned it upward with such violence, that it did not gain its normal direction till forty or fifty feet above us where it roared like a heavy surf through the tree-tops till the morning, and we, minus the rain, and lulled by the noise above and the peaceful hardly stirring air immediately around us, slept the sleep of the tired to whom wind and rain were as nought so long as the good old fire kept alight and we were warm. It was a very interesting experience.

While it is very pleasant to look at pictures of the forest and the way thereto, it is a never–to–be–forgotten joy (or bore to the non–forest–minded inveigled into the trip), to clamber up a creek bed, over boulders and stones, skirting pools, climbing up past small waterfalls and sometimes bigger ones, not forgetting to look for leeches occasionally, and then, intent on watching one's feet, suddenly to hear a tantalising bird–call, but by the time one's balance is assured the songster has gone and all the looking and peering cannot find it. Then after long hours of such toil most pleasurable and richly filled with interesting finds, after winding your way through the magnificent trees that fill some of the gorges, huge flooded gums, boxes, cedars, pines, too many to give names to, groves of palms, tree–ferns, and (if you leave the paths so well and truly laid by the State's Forestry Department), getting tangled in lawyer–vines and dodging the prickly and stinging curses of mankind in the Park—stinging trees, nettles and such like trash—to arrive at last probably rather breathless on the top of a ridge from where some magnificent panorama spreads below and takes away most of the breath you have left; or perhaps you do not climb but keep to the creek and finish up at the end of a gorge whose sides rise sheer for hundreds of feet, at the foot of some fall whose beauty is ample repayment for the trouble taken and makes a regretful thought of the toiling journey back, rank heresy!

My ordinary black–and–white photos cannot give anything like a realistic impression of the forest. I have seen, in the spring, at the foot of a high gorge, through a gap in the tree–tops, a line of reddish brown colouring high in the drab grey rocks of its sides, slanting down into the green tree–tops and meeting the colourful young leaves of the red cedar trees which then by some freak of growth carried the vivid single line of colour deep into the gorge.

I have wandered down into this same gorge along a pathway bordered by a hedge of lilac–coloured hovea many feet high, and climbed through the same wild–flower on the other side into a paradise of wild–flowers on top of the next ridge and after wandering through belts of yellows and misty blues, and following another path, found growing on the lower side of the path only, a belt of white everlasting flowers six feet and more high, a sea of snow among the green which I followed for about half a mile until it became thinner and petered out into the green of the scrub again.

Then there are orchids that cling to tree and rock, whose graceful beauty and fearful names seem ill-mated to a mere looker-on; huge trees of the forest whose enormous root-buttresses seem very strange to people only used to trees which grow in the conventional tree shapes, and which support hosts of poor relations in the way of orchids, staghorns, elkhorns, ferns, fungi, and beetles and bugs of various kinds and shapes, not to forget various vines; strange fungi luminous at night; birds of so many species it is impossible to name many here. Always the whip bird is heard, and nearly every dusk the cat bird makes a weird sort of noise hardly to be put under the heading of "birdsong." If you are very quiet and lucky you might see the lyre bird and even see him dance; perhaps startle a scrub turkey and see it race along the path into some less accessible place in the forest.

My springtime favourite is the rufous fantail, a friendly little fellow who, having decided you are harmless, flies low along the path in front of you, a friendly and warm bit of colour against the dark earth and sombre shade of the big scrub. Every short while he comes to earth on the path ahead, flicking his tail and peering at you from very bright eyes and then when you are a few steps off, away he flies again to repeat the performance till he tires and with a last graceful tail-flick and flash of rufous colouring, he's away and the unrelieved greens and browns close round you again, cool and aloof.

Our birds are very obliging with their vocal efforts but some are much more enjoyable than others. All birds do not sing—some make a dashed lot of noise, which if repeated long enough by a large enough chorus, is, to say the least of it, a bit tedious. However, most of them are very tuneful and sometimes the forest seems a vast aviary.

I find I have said nothing of other animals or rocks, but for those interested in these there is plenty of material to work on; enough to keep all types of naturalists busy for a very long time, so I will leave it at that, and now back at the beginning of our trail, we can look down the valley and watch a crimson sun set, promising us a fine day for the morrow.

DENDROBIUM ADAE F. M. Bailey and *D. ANCORARIUM* Rupp: A DIMORPHIC SPECIES?

By the Rev. H. M. R. Rupp, Northbridge, N.S.W.

In this Journal, Vol. 12, No. 6, May, 1945, p. 115, I described and illustrated a "new" species of *Dendrobium* from North Queensland, under the name *D. ancorarium*. In the same issue I contributed a short article (p. 114), also illustrated by a plate, of *D. Adae* F. M. Bailey. In the course of discussing *D. ancorarium* I mentioned its affinities with *D. Adae*, but tabulated the differences which appeared to me to provide ample grounds for specific distinction. I recorded that some years ago I had received a juvenile *Dendrobium* plant from Dr. H. Flecker of Cairns, which grew in my bush-house and finally, in 1944, produced its first flowers. This is the plant which I described as *D. ancorarium;* and I mentioned receipt of an identical flower from Mr. T. E. Hunt of Ipswich, as evidence that my own flowers were not merely "freaks."

This year (1945) my plant has produced five flowers —three on one stem and two on another. The small raceme of three was the first to bloom, and all three flowers were identical in every respect with those of the previous year: i.e. they were flowers of *D. ancorarium* as described, *l.c.* They were very short-lived, lasting only about two full days. Then the two flowers on the other stem developed and opened; and *they were perfectly typical flowers of D. Adae!* There can be no question about this; colour, form, and perfume are all identical.

It is obvious therefore, that *D. ancorarium* cannot stand as a valid species. There is a "design" picked out in dark dots at the base of the column of *D. Adae*, but it is not in the least like an anchor. The anchor design was conspicuous in the first three of my flowers just mentioned, but in the second two the outline is as usually found in *D. Adae*.

My experience of *D. Adae* has been limited to a very few specimens of racemes received from friends, and a healthy plant in my bush-house which flowers freely now in September. At the time of writing (September 13) all its racemes are still in the bud stage, but are developing quickly. The two "*Adae* flowers" on *D. ancorarium*, however, will scarcely survive till those on the larger plant have opened.

What is the explanation of the above facts? Is *D. Adae* a dimorphic species in which at any time flowers may appear having the characters which I described for *D. ancorarium?* Or does it produce such flowers only in the initial stages of its flowering career, subsequently and thereafter consistently—developing the typical white, tuberose-perfumed blooms? In my older plant, which I have had for about five years, there has never been any suggestion of "*ancorarium*" flowers. It would be most interesting if growers of *D. Adae*, or North Queensland readers who may have access to plants in their natural habitat, would contribute observations in regard to this apparent dimorphism.

AN IMPORTANT CONTRIBUTION TO OUR KNOWLEDGE OF DUTCH NEW GUINEA

Fragmenta Papuana (Observations of a Naturalist in Netherlands New Guinea) by H. J. Lam. Translated from the Dutch by Lily M. Perry. Published as No. V. of "Sargentia" by the Arnold Arboretum, Jamaica Plain, Mass., U.S.A., 196 pp., 2 maps and 32 text figures. Price 3 dollars.

The Arnold Arboretum of Harvard University, due largely to the energy and interest of the Director (Dr. E. D. Merrill), has become the centre of recent botanical research in the South-west Pacific Area. All interested in this part of the world, especially botanists, will welcome the appearance of the above publication which is a translation of several papers by the Dutch botanist, H. J. Lam, which appeared in 1927-9 in the "Natuurkundig Tijdschrift voor Nederlandsch Indie." Due to the great interest at present in the flora and fauna of the South-west Pacific it was thought desirable to make available an English translation of these important papers. Dr. Frans Verdoorn, of Holland and now at the Arnold Arboretum suggested that the Dutch Government, through its Board for the Netherlands Indies, should be approached for permission for the translation to be made at the Arnold Arboretum. The Board did this and further gave a monetary grant towards the cost of printing. Few botanists, if any, at the present time are doing more work on the flora of New Guinea than Dr. Lily M. Perry and it was fitting that the work of translation should be entrusted to her. Dr. Lam spent practically the whole of 1920 in Dutch New Guinea as botanist to the Mamberano Expedition. The Mamberano, one of several mighty rivers in New Guinea, has a length of 900 miles and drains an enormous area of country. One outstanding feature of this northern river is that the tide rarely if ever finds its way into the mouth, with the result that there are no extensive mangrove forests there such as we are familiar with in the estaurine water of the Fly, Purari and other rivers of the south coast of the Australian Territory of Papua. It is doubtful if more extensive mangrove forests than these exist anywhere. Nipa palm which fringes the salt water banks for miles along the southern rivers is also absent on the lower Mamberano. The land is marshy and sago palms are in evidence, indicating fresh water. Further up the river, extensive gelagah—better known to residents of the Australian side as pit-pit (*Saccharum spontaneum*) flats are seen. In some places the pit-pit is replaced by the common tropical reed (*Phragmites Karka*). The seeds of both are superficially alike, but the two can easily be told by the stems, those of the pit-pit being solid, those of the reed hollow.

As along most Papuan rivers the fringing forest is a monotonous green, but is lit up here and there with the bright red flowers of a *Mucuna;* the members of this genus are universally known in Papua and the Mandated Territory as D'Albertis creepers. Not all, however, bear red flowers; some are of a rather pale green.

High up the river, just below the foothills of the Main Central Range, is a low-lying marshy basin—the Meervlakte—approximately 200 miles long and 40 miles wide, covered with reeds and other marsh-loving plants. Between the river and the marsh-lands is a fringing belt of forest. The trees, like mangroves, show a special adaptation to the wet conditions under which they live, particularly the poor aeration of the soil. Respiratory roots were observed for the first time in a rattan (*Calamus* sp.) 35 feet or more above ground level The waroe (*Hibiscus tiliaceus*), known throughout the Pacific as probably the main source of native cordage, is abundant here and is remarkable for the production of aerial roots from the trunk and main branches. These are lacking in the tree in the drier situations in which it is more generally seen. The banks are highest adjacent to the river and here the trees are tallest, gradually becoming lower as the land slopes towards the marsh. The matchbox bean (*Entada*) and the supple-jack (*Flagellaria*), well known to Australian botanists, climb to the tops of the trees. Epiphytes are common, orchids and two genera of Ant-Plants, the Prickly Ant-Plant (*Myrmecodia*) and the Smooth Ant-Plant (*Hydnophytum*) and strangely a species of *Elatostemma* (*E. pedunculatum*), a genus we are accustomed to find in New Guinea and Eastern Australia in damp places in the rain-forest such as among boulders along creek beds, heads of gullies, etc. It has some value as a spinach substitute.

When dealing with the foothill forests, Dr. Lam makes especial note of the number of myrmecophilous or ant-inhabited plants to be found in the New Guinea flora. The ant-plants epiphytic on trees have already been noted. Some of the trees have the branches specially modified to house ants. One of the commonest in New Guinea is a medium sized tree, *Endospermum formicarium*. Ants make their way into the thickened internodes where they quickly eat out the soft pith, making a house or tunnel for themselves and frequently keeping scale insects therein.

Trails of the cassowary are seen in the forest and occasionally a glimpse is obtained of the huge birds with their brilliantly coloured head. The foothill forest carries the usual trees of genera common throughout New Guinea as *Syzygium*, *Aglaia*, *Chisocheton*, etc., with an undergrowth of shrubs. Animal life is fairly abundant and yielded food for the explorers. In addition to fish, pigeons and real turtle soup, they tried cassowary and cus-cus (*Phalanger maculatus*) and even crocodile, which Dr. Lam states is not as distasteful as tradition says and strikes a happy medium between fish and veal. While in this region they met a party of bird-hunters who had done a remarkable overland journey from Hollandia to the headwaters of the Idenburg River. The party, headed by two Chinese and supported by natives, had lived entirely off the land, at first from native villages, but later wholly by hunting and fishing. Each day organised parties scouted for food while others hunted birds-of-paradise and crown-pigeons.

As so much stress has been laid on living off the country, some of the lesser known foods might be listed. These included turtles and monitor lizard eggs, young palm leaves and young fern fronds, growing tips of *Pandanus* and lawyer–canes or rattans, flying foxes or fruit bats and snakes and frogs. In the mountains the variety and quantity of native foods become much less.

The foothill forests of the central mountain range are heavy and dense with an undergrowth of shrubs, ferns and mosses. As in other parts of New Guinea a dominating tree is the Tauan (*Pometia pinnata*). At the base of one large tree a peculiar pile of leaves was observed about 3ft. in diameter and a foot high. On one side was an opening, the entrance to a passage about 2ft. long. It looked very fresh and the natives thought it was the work of wild pigs, prepared as a shelter for the night for their young.

At about 1,500 feet altitude oaks (*Quercus* spp.) are met with for the first time and a beautiful *Rhododendron* with large pale orange flowers. At a little over 2,000 feet a remarkable tree noticed was a giant *Pandanus* with roots developed from the trunk 60–90 feet above the ground. At about 4,000 feet *Dacrydium* is seen, an important conifer in New Guinea, a genus represented in Australia solely by the Huon Pine of Tasmania (*Dacrydium Franklinii*).

L. J. Brass, the botanist of three Archbold Expeditions, has described the forests at altitudes of 4,500 to 10,000 feet as mossy forests and this name is applied by Lam to the forests of the mid–mountain slopes of the main central range in Netherlands New Guinea. The name is apparently very appropriate as the ground and lower part of tree trunks are covered with a thick layer of moss, which may be up to a foot in thickness, while branches bear isolated cushions frequently of large size. This moss layer is a world in itself, being the home of some lower forms of animal life such as protozoans and crustaceans.

On the open ridges, where there are extensive sunny areas, the trees are small and there is a large variety of shrubs, including species of *Rhododendron*. Climbing or scrambling ferns (species of *Gleichenia* and *Lygodium*) are abundant as is also a scrambling bamboo. Pitcher–plants (*Nepenthes* spp.) are common.

At the main camp, about 4,500 feet, the climate was characterised by perpetual fogs and rain, and animal life was scarce. Among birds were kingfishers and mistletoe birds (*Dicaeum*) (which, in addition to the fruits of mistletoes, eat the ant–plants), cinnamon–coloured pigeons (*Eos fuscata*), a parrakeet (*Chalcopsittacus duivenbodi*) and a large black parrot (*Microglossus aterrimus*). Small marsupials were fairly plentiful, including an opossum (*Phasco–*

gale) and a *Dasyurus*. Rats were common, but strangely leeches and mosquitoes were practically absent.

The next camp was established at about 5,200 feet and conifers became common trees of the forest. Parrakeets flew overhead on their homeward journey from the Meer-vlakte. They do not come much higher than this. Lam mentioned that nowhere had he seen such a wealth of ferns as here. New Guinea has probably the richest fern flora in the world, though many of the lowland rain-forests are practically fernless.

At about 8,250 feet the mountain casuarina appears in great abundance and from this height upward is practically the only tree found in addition to the conifers. In the undergrowth a half-climbing bamboo is very common. The forest limit is fixed at about 8,550 feet though trees may extend up to 9,000 feet. Between this and the highest point on Mt. Doorman, about 10,750 feet, is a plateau on which a camp was established and much collecting done. This plateau is characterised by three outstanding types of vegetation, naturally showing many transitions:

A. The rocky terrain.
B. The fern and shrub scrubs.
C. The marshes.

The first is the largest, with convex folds and gently sloping areas where the surface is covered with boulders of all sizes. These are all formed from the basic rock formation marked by sink holes interspersed with abrupt ridges and irregular protruberant rocks and by caverns and underground streams. As weathering proceeds rows of furrows are frequently formed separated by narrow and often very sharp edges. The rock formation consists of magnesium olivine and a colourless mineral antigorite, and antigorite serpentine, permeated everywhere with magnetic iron-ore which by its action on the compass had adready tricked earlier explorer-surveyors. In the humus collected between the boulders a very dwarf flora of small crowded or creeping shrubs and a few herbs take root. Several species of *Styphelia*, a group of plants having its greatest development in Australia, were much in evidence. In the more protected areas shrubs may attain a height of six feet or more, including species of *Syzygium* (*Eugenia* to Australian botanists), *Vaccinium*, *Drimys* and *Quintinia*. A pitcher-plant (*Nepenthes Viellardii*) only previously known from New Caledonia was collected here. The ant-plants (*Myrmecodia*) are typically epiphytes, but here one species that was epiphytic at lower altitudes was found to be terrestrial on this plateau.

The second formation, the fern and shrub scrubs, is level but not marshy and occurs where living conditions for plants are more favourable than on the rocky terrain. The borders are formed of thick moss-cushions and fern-associations with a high growth of shrubs in the centre, giving the appearance of a slight difference in elevation of the land. In the more protected places *Casuarina* (she-oaks) and conifers became trees with a very much dwarfed form, only 4ft. 6in. high.

The third plant association, that of the small marshes, contains a very scanty flora mainly of sedges. On the border of the marshes and bare stony ground some remarkable procumbent myrtles are found. A richer vegetation due to sheltered conditions is found in some ravines which descend the sides of the plateau.

Animal life on the plateau was found to be limited, a swallow, an ousel-like bird and a mountain duck were the only large birds seen, and of animals the cus-cus and opossum. A small frog with a shrill croak was found living in the hollow channels of the tubers of an ant-plant (*Hydnophytum*).

The track between this plateau and the actual summit of Mt. Doorman leads over bare stony ridges and through a few marshes to the foot of the enormous steep crumbling declivity going off the plateau on the west side. The flora here is very rich due to the rock crevices which offer shelter against the worst extremes of the climate. Species of *Rhododendron* and other mountain shrubs are common here. The actual summit of Mt. Doorman, which is 10,750 feet, is a small plateau carrying a flora of about 16 species, half of which are shrubs, the other herbs and grasses.

The last chapter of the works deals in a general way with the country and people of the Swart (Toli) River and Dika River.

It is gratifying to us to have Dr. Lam's work available in English and it is good to know he has been spared to continue his critical studies of Malayan and Papuasian plants at the Royal Herbarium, Leiden.

C. T. WHITE.

OBITUARY

The death of Mr. L. Franzen in June last has caused a very great loss to natural history, particularly entomology, in Queensland. Mr. Franzen was born in Sweden in 1878 and came to Brisbane in 1898, where he established himself in business as a merchant. His integrity and steadfastness was admired by all who knew him, while his kindly and unassuming personality endeared him to all his friends. An early enthusiasm for collecting insects was keenly continued in Queensland, where he has collected in most parts of the State. Many of his friends remember with pleasure collecting expeditions in his company. Particular interest was taken in Rhopalocera, Hemiptera and Neuroptera, about which he had on several occasions written notes for "The Queensland Naturalist." In 1939, after an interval of more than 40 years, Mr. Franzen visited his native country. He was always an ardent admirer of Linnaeus and while in Sweden had the rare privilege of visiting Linnaeus' home and collecting a butterfly in the garden. While maintaining an interest in all kinds of insects, Mr. Franzen, in later years, was chiefly interested in Neuroptera, of which he had accumulated a very fine collection, containing many rare as well as new species. Entomologists in Queensland will always remember Mr. Franzen with reverence.

A.R.B.

BOOK NOTICE

A "Check List of North Queensland Orchids" has been published by the North Queensland Naturalists' Club (March, 1945) and is obtainable from the Honorary Secretary of the Club, Mr. J. Wyer, "Lochinvar," 253 Sheridan Street, Cairns, at the cost of one shilling. The species known to occur in North Queensland are listed and their flowering months indicated. A number of localities with collectors' names is given after the name of each species. No explanation is given as to how the list was compiled.

CORRECTION

Delete the letters "A.I.F." in Vol. 12, No. 5, p. 93, line 15 (1945). These letters appeared as the result of an editorial error.

Statement of Receipts and Disbursements for the Year ending 31st December, 1944.

RECEIPTS

	£	s	d
Balance Forward from 1943	49	12	10
Subscriptions	63	8	6
Sale of "Queensland Naturalist"	0	11	3
Hire of Lantern	0	10	6
Surplus from Easter Camp	4	15	2
Interest at Savings Bank	1	4	10
	£120	3	1

EXPENDITURE

	£	s	d	£	s	d
Rent, Women's Club				12	15	0
Insurance, Bookcase, Library				0	2	10
Telephone	7	19	8			
Less Refund	2	1	0			
				5	18	8
Petty Cash				10	0	0
Barker's Bookstore (Magazines)				2	4	0
Subscription to R.S.P.C.A.				1	1	0
Honorarium to Hon. Secretary				5	0	0
Balance in Bank				83	1	7
				£120	3	1

£40 War Savings Certificates held by George Street Branch of Commonwealth Savings Bank. Receipt for same held by Hon. Secretary, Miss E. E. Baird.

	£	s	d
War Savings Certificates	40	0	0
Bank Balance	83	1	7
Total	£123	1	7

E. N. MARKS, Hon. Treasurer.

25/1/45.

C. W. HOLLAND, Hon. Auditor.

1/2/45.

PRICE, 1/-. Vol. 13. No. 2, August 1946

THE
QUEENSLAND NATURALIST

JOURNAL OF THE
QUEENSLAND NATURALISTS' CLUB
AND
NATURE-LOVERS' LEAGUE

"The Poetry of Earth is never dead."—KEATS.

The Author of each Article is responsible for the statements expressed therein

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The Queensland Naturalists' Club
AND
Nature Lovers' League

Official Journal—The Queensland Naturalist.

OFFICE-BEARERS, 1946

President:

Miss M. Holland,
Burns Road, Toowong.

Vice-Presidents:
Mr. G. H. Barker, Mr. J. H. Simmonds

Hon. Secretary:
Miss E. E. Baird,
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Hon. Treasurer: Miss H. Clarke,
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Hon. Excursion Secretary: Mr. G. H. Barker, Barker's Book Stores, Adelaide Street, Brisbane.

Hon. Librarian: Mrs. G. L. Jackson.

Committee:

Dr. E. O. Marks	Mr. C. T. White
Mr. J. Cossar Smith	Mr. G. L. Jackson

Hon. Lanternist: Mr. W. J. Sanderson.

Hon. Auditor: Mr. C. W. Holland.

Hon. Editor, Naturalist: Mr. S. T. Blake (Botanic Gardens, Brisbane).

SUBSCRIPTIONS:

Ordinary Members	.. ..	10s. per annum
Country Members	.. ..	5s. per annum
Junior Members	.. ..	5s. per annum

Nature-Lovers' Certificate, 2d.

MEETINGS:

Evening Meetings are held at the Brisbane Women's Club Rooms
Edwards Dunlop Buildings, Edward Street
on the Third Monday of every Month.

Excursions are held once or twice a month from March to December.

4 SEP 1946

THE
QUEENSLAND NATURALIST

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AND NATURE-LOVERS' LEAGUE

Vol. xiii August, 1946 No. 2

PROCEEDINGS

ANNUAL MEETING, 18th February, 1946—In the absence of the President, the chair was occupied by the Vice-President, Mr. G. H. Barker; about 60 members were present. Mr. G. Mack and Mrs. J. Briggs were elected to membership. A report on the excursion to Clontarf was given by Mr. Harley (ornithology). The excursion secretary reported that arrangements had been made for an Easter excursion to Noosa. The annual report and also the librarian's report were read by the honorary secretary. The report of the hon. excursion secretary was unavailable. The election of officers for the ensuing year resulted as shown on the inside of the front cover. Miss Holland then took the chair. Mr. C. T. White gave a lecture on the Solomon Islands. Dr. H. E. Young tabled a mycorrhiza from a Brisbane Box. Photographs taken on the monthly excursion were tabled.

EVENING MEETING, 18th March, 1946.—The chair was occupied by the President, Miss M. Holland, and about 56 members were present. The Misses C. Sandercock, D. Harris, Hartshorn and Fletcher were elected members of the Club. Reports on the excursion to Salisbury were given by Mr. White (botany) and Miss Coxen (ornithology). Mr. J. E. Young reported that an owl had been seen to take a spider from a crevice on the verandah of his home at Graceville. Dr. F. W. Whitehouse gave a lecture on some of his geological experiences in the war, illustrated by a series of photographs. A Bael-fruit was tabled.

EVENING MEETING, 15th April, 1946.—The chair was occupied by the President, Miss M. Holland, and about 52 members were present. Dr. Dorothy Hill, Miss Frazer, Mr. L. S. Smith and Mr. H. Sydney Curtis were elected to ordinary membership, and Mr. and Mrs. W. G. Curtis, Mr. Herbert Curtis and Mr. D. Bryce were elected to country membership. Mr. J. C. Smith spoke of the history of The Blunder Country, which had been visited on the previous Saturday, remarking that a great deal of timber had been taken from it. Mr. White reported on the botany of the area and Mr. Barker reported on the birds. The greater part of the evening was devoted to the screening of a number of films dealing with Natural History, which had been loaned by the Department of Public Instruction. This film showed Queensland wild flowers (in colour), birds' nests (in colour), the golden eagle and the parasol ant. Mr. Donnan tabled specimens of some Western Australian wild flowers and some books featuring them; one of these books he presented to the Club. Miss Holland exhibited some trap-door spiders. Mr. Smith tabled a photograph of gum trees at The Blunder. Mr. S. Curtis exhibited photographs of a nest and egg and a young bird of the white-throated night-jar.

ANNUAL REPORT FOR YEAR ENDING FEBRUARY, 1946.

Ladies and Gentlemen,

The Council of the Queensland Naturalists' Club presents the Annual Report on the work of the Club.

As usual Natural History pursuits have been carried forward during the year at evening meetings and field excursions.

MEETINGS.—There have been ten evening meetings, twelve field excursions and nine Council meetings during the year. Attendance at Council meetings has been as follows:—Mr. W. Arundell, 8; Miss Holland, 5; Mr. Barker, 5; Miss Baird, 9; Mrs. Jackson, 6; Miss Marks, 8; Dr. Herbert, 3; Dr. Marks, 7; Mr. White, 3; Mr. Jackson, 6; Mr. Sanderson, 6; Mr. Blake, 2; and Miss Clarke, 8. Mr. White was absent from Brisbane for some time and Mr. Blake was ill.

Attendances at evening meetings has been good, the average being 50. Interesting and instructive lectures dealing with several aspects of Natural History have been given. Many were illustrated with specimens. The lecturers included Messrs. Brimblecombe, Blake and Boardman.

As usual the September meeting was devoted to exhibits featuring wild flowers. Reports of the Easter excursion were given at the following meeting. Films showing interesting phases of Natural History were screened on three evenings.

Reports of field excursions were given at evening meetings and interesting specimens tabled by various members.

MEMBERSHIP.—The death of Mr. Franzen—well-known entomologist—occurred during the year. Seven new adult members and six new junior members were elected during the year; three members have resigned. Membership now is 173.

NATURE LOVERS' LEAGUE.—Little work in this direction has been done.

THE CLUB LIBRARY.—Books and magazines of Natural History interest are available to members. Town members may borrow them at evening meetings; packets are sent to country members who wish to have them.

"QUEENSLAND NATURALIST".—Two issues of the journal have been published.

GENERAL.—During the year the Club drew the attention of the Lord Mayor to the destruction of a large Bottle Tree in the Botanic Gardens. The reply received was considered unsatisfactory and subsequently one of your Council (Mr. C. T. White) had an interview with the Mayor concerning the management of the Botanic Gardens in general. The Mayor stated he did not consider it the duty of the City Council to maintain the Gardens as a scientific institution, but he would certainly see if something could be done to improve it on the horticultural and botanical side. Now that more labour is available, it is hoped he will act along these lines.

Mention should be made of the change in the directorship of the Queensland Museum, whereby by the retirement of our good friend Mr. Longman, who has been a member of the Club for many years, we enrol a new member in Mr. Geo. Mack, of the Melbourne Museum. We have been indebted from time to time to Mr. Longman for many instructive addresses and for personally conducted tours of the Museum, which have been greatly appreciated by members and we offer him sincere good wishes for enjoyment of a well-earned leisure. To Mr. Mack, who comes to us with high credentials in his special work in Melbourne, we offer greetings and the hope of happy connection with the Club in the future.

E. E. BAIRD,
Hon. Secretary.

REPORT OF LIBRARIAN FOR 1945

The Library has benefited during the past year by the addition of many desirable and suitable books.

A sum of £3 was made available at the beginning of the year for books and a number of the latest editions were purchased. These, however, were presented to the Club by Mr. G. H. Barker, so further volumes were chosen and purchased with the £3.

The Club is greatly indebted to Mr. Barker for his generous donations to the Library, as in addition to the above he has presented at intervals during the year many of the latest and most desirable "nature" publications.

All these, in addition to the gifts of books and magazines handed in from time to time for many years, warrant special mention and our deepest thanks are hereby accorded to Mr. Barker.

Other members have also donated desirable books to the Library during the year, among them being Miss MacCallum, Miss Earnshaw, Miss Baird, Mr. Holland and Mr. C. T. White.

Our gratitude is extended to them also.

E. M. JACKSON,
Hon. Librarian.

REPORT OF THE EXCURSION SECRETARY FOR THE YEAR 1945

The Club, despite the restrictions on travel still in force as a consequence of the continuance of war conditions, managed to arrange and carry out some very useful and pleasurable outings in the field during the year.

The principal one during the Easter holidays was again held by the kindness of Dr. and Mrs. Marks at their home at Camp Mountain. About 50 members and their families journeyed by train or car and took part in the opportunity afforded to visit some of our old spots and see new ones in that area. Quite a feature of the outing was the journey by train up the Samford Valley to Samsonvale, where we rambled through some big timber country to a well-preserved bora-ring and its smaller companion about half a mile further on. A list of seventy-six birds was compiled by Mr. Filmer during our stay, but this was not up to our average for the area.

Two outings to Ferny Grove and Keperra were made during the year, one in February and one in October, the former being the more successful of the two. Much damage to trees in this area by a recent storm which came straight down the creek, was in evidence, and twenty-four species of birds were noted during the afternoon. The second one in October was not so pleasing, the weather being dry and hot, and birds and flowers were scarce. Even the interesting bora-rings near the club house failed on this occasion to attract the members present.

The March outing was a visit to St. Lucia, which still supports some interesting vegetation, and as a result a goodly number of birds, nearly thirty, being listed for the afternoon.

The April outing was a tramp from Kingston to Kuraby under the leadership of Mr. White, who discovered among other unusual botanical items, a goodly stand of blackbutts (*Eucalyptus piluaris*). No geological work was done and few birds were seen.

At the first week-end in May a small party travelled to Tamborine Mountain, and as usual, were well rewarded for their journey, and the Club is indebted to Mr. and Mrs. B. R. Geissman for the use of their home for the three days. Mr. Blake and Mr. Hines did some extensive botanical collecting and the latter had some interesting things to say of the chemical side of the flora of the region. Mr. Robertson listed forty-three species of birds seen during his rambles.

The ordinary May outing was a ramble from Sunnybank to Salisbury, through the timber country which in this area exhibits a wide variety of the S.E. Queensland forest flora, which is always of interest to the botanist. Ken Harley noted twenty-four different species of birds seen during the walk.

The excursion to Kenmore and Lone Pine was a full day outing on June 18th, led by Mr. Hines. After a morning run across the highland of Kenmore, a rendezvous for lunch was held in a particularly interesting pocket of scrub forest, at the head of navigation of Moggill Creek. Many interesting trees, shrubs and vines were listed by Mr. Blake. After lunch a start was made across country for Lone Pine through some open forest country, which, despite the dry weather, had much of interest for our members. Afternoon tea and a rest on the banks of the Brisbane River, whilst we waited for the bus, finished a very fine outing.

In July we again went over the Lota–Manly area which, though now largely built on, still provides items of geological and other interest.

The next outing in August was from Darra to Oxley and this was a long walk with little to be seen by the way. Boronia grows well in this area in places, but was missed by the party on that occasion. Some interesting bird life was a little compensation for the walk.

The next excursion was the one in September to Sunnybank which was an all day Sunday effort, held with the idea of securing some flowers for exhibit at the evening meeting the following day, and quite a number were secured. This area, though close to Brisbane, can still be relied on for a wealth of botanical material for the student.

An outing to Sandgate on November 17th finished up the year's excursions, and, as usual, the lagoons and sea front provided much of interest for all those attending.

GEO. H. BARKER,
Hon. Excursion Secretary.

ORIGIN AND EARLY YEARS OF THE QUEENSLAND NATURALISTS' CLUB

By C. W. HOLLAND

In the same year (1859) that Queensland was made a separate colony there was established in Brisbane a Philosophical Society which gave much attention to the natural sciences. Later on, in 1884, the Royal Society of Queensland was inaugurated and the Philosophical Society was shortly afterwards amalgamated with it.

In 1886 a Field Naturalists' Section of the Royal Society was formed at the instance of Mr. Henry Tryon. It started off with a membership of over fifty, but only a small proportion of these were active.

The inaugural meeting was held on 6th October, 1886, and among those present were Dr. Joseph Bancroft (chair), George Watkins, Hon. Secretary, F. Manson Bailey, Dr. A. J. Turner, Henry Tryon, Dr. J. F. Shirley, Rowland Illidge, J. H. Simmonds and J. R. Sankey. The last five afterwards joined the present Club. The first field meeting took place at the Acclimatisation Gardens, Brisbane.

Under a recent date, Mr. J. H. Simmonds wrote:—"The original idea was to have different sections . . . but owing to the absence of other leaders and the enthusiasm of Mr. F. M. Bailey, it soom became almost entirely botanical." The section started off with great energy, and during the first nine months of its existence, three evening meetings and nineteen field excursions were held, but interest seems to have gradually waned. At the last excursion (to Eumundi) in the Easter of 1894 only three members were present.

The name of F. M. Bailey brings up memories of one of the most outstanding figures in the history of science in Queensland. Born in London in 1827, he must have had botany in his blood, both his grandfather and father having been lovers of nature. In search of a wider field, his father, John Bailey, set out for Australia in 1838 and arrived at Holdfast Bay, South Australia, on 22nd March, 1839, bringing young Frederick Manson Bailey with him. John Bailey was appointed Government Botanist and laid out the first botanical gardens in Adelaide. Seventy-eight years afterwards John's grandson, John F. Bailey, who was Director of the Brisbane Botanical Gardens, also became Director of the Adelaide Gardens.

F. M. Bailey came to Brisbane in 1861, and in 1875 was made a member of a Board appointed by the Government to inquire into the cause of diseases affecting live-stock and plants. He was next placed in charge of the botanical section of the Queensland Museum, and in 1881 was appointed Colonial (now Government) Botanist. Indefatigable in his love for botany, he did an immense amount of work in that sphere and published much valuable matter, his Queensland Flora being monumental. With a world-wide reputation, he did not receive from the Government the recognition to which he was entitled. During a period of retrenchment the office of Botanist was abolished, but Mr. Bailey continued to discharge his duties cheerfullly, saying the work must go on whether he was paid for it or not. The Government, yielding to public pressure, afterwards re-appointed him to the position, but at a salary about equal to that of an unskilled workman.

Another example of Governmental indifference occurred when Mr. Bailey wished to publish an index to the Queensland Flora. The Government refused to bear the cost, estimated at £40. A foreign visitor to Brisbane offered to provide the sum, and the Government allowed it to be accepted! Politicians of that day did not appreciate the value of science.

F. M. Bailey had a great love for high-class literature and could quote from memory lengthy passages from his favourite authors. Lovable and kindly to the utmost, he left behind him on his death an 25th June, 1915, not only a mass of scientific work, but the affectionate remembrance of those who knew him.

At the beginning of 1892 a Society was formed under the name of the Natural History Society of Queensland. Mr. Henry Tryon was first President, and Mr. F. Whitteron was first Hon. Secretary. The Society published one volume of records during the years 1892, 1893 and 1894.

The movement went to sleep for a few years and was revived by Prof. S. B. J. Skertchly, Henry Tryon and James Johnston. On 10th March, 1906, eleven enthusiasts met with this object. A little later, on the 6th of the following month, the Field Naturalists' Club was inaugurated. The title was changed, in 1922, to its persent one —The Queensland Naturalists' Club.

The number of foundation members was fifty. Prof. S. B. J. Skertchly was elected first President and the other members of the Committee were Henry Tryon, Vice-President, Miss Fewings, A. Exley, L. C. Green and E. Hurworth. The first Hon. Secretary was James Johnston. Later in the same year C. W. Holland was appointed Assistant Hon. Secretary, and when in the following year Mr. Johnston relinquished the post, his place was taken by the former.

In his inaugural address, Prof. Skertchly stressed the point that the Club was not a Society, but that he hoped it would be the means of enriching the societies already in existence. Those whose membership goes back to the early days know that the genial President continually urged the cultivation of what he called "Clubability." He did not like the idea of meeting in a room furnished with rows of benches, where "one could no more be pleasantly chatty among its wooden parallels than one could tread a measure among Church pews."

Unfortunately, the Club was, for some years, compelled to meet in rooms that were not suitable for the purpose. The early meetings were held in the basement of the old Technical College in Ann Street, where the concrete floor and whitewashed walls were not very inspiring. When the College was taken over by the Government, the Club was turned adrift and for some years it led a rather nomadic existence, wandering here and there in search of a suitable abiding place. Still, members were not deterred by these discouraging circumstances. It was not, indeed, until the Club was able to meet in its present quarters that it acquired a home-like feeling.

Looking back to those early years it does seem surprising that the Club was able to survive. At the outset there were not wanting wiseacres who looked askance at the venture and predicted its collapse. In those days interest in natural history was confined to a few, mostly teachers, of Brisbane's much smaller population. But thanks to a succession of energetic Committees the Club progressed year by year.

The Committee even had sufficient confidence in the future to commence, in 1908, the publication of a journal, "*The Queensland Naturalist.*" There were again gloomy forebodings as to the wisdom of this course, but although it has not been possible to adhere strictly to the original intention of publishing every quarter, the journal has survived, in spite of financial difficulties and the dislocation caused by the two world wars.

First among the foundation members who did yeoman service comes Professor S. B. J. Skertchly, leader of the little band of pioneer naturalists who brought the Club into existence. Of an old Leicestershire family, he was associated with the scientific giants of the nineteenth century—Darwin, Huxley, Wallace, Bates, Lyell and others. He loved to talk of those old friends, always in delightful language, accompanied by touches of humour. As a lecturer he was brilliant, whether speaking of scientific or commonplace matters. Although geology was his first love, he had a wide knowledge of different branches of science, and he possessed a rare power of generalising. Now-a-days, with the great increase in knowledge and the necessity of specialising, such men are scarce indeed. He was always ready to help the younger generation, and was unremitting in his efforts to infuse into others what was paramount in his own make-up—an intense love of nature.

His most important work was performed in the geological field, extending as far back as 1866. Darwin praised his work and ability, and he assisted in the preparation of Geike's *"Great Ice Age"* and Wallace's *"Island Life."*

Professor Skertchly lies in the little cemetery at Nerang. As a result of a fund raised by different scientific societies in Brisbane his grave is surmounted by a massive granite memorial stone on which is inscribed the quotation from Keats he gave the Club as a motto in his first presidential address: "The Poetry of Earth is never dead."

Next among the founders of the Club comes Mr. Henry Tryon. Of a notable English family, among whom were distinguished naval officers (a service in which he himself received early training) he went to New Zealand after leaving the land of his birth. From thence he came to Queensland, where he was associated with the Public Service of the State for nearly half a century. After being a member of the scientific staff of the Queensland Museum, he was appointed to the Department of Agriculture and Stock, where he performed much important work in many branches of science. His official title, Government Entomologist and Vegetable Pathologist, alone shows the breadth of his knowledge. Primarily an entomologist, he was an expert in many branches of national history. Indeed, his mind seemed to contain veritable text books of zoology and botany. Australia has greatly benefited by his work. His services to the sugar industry alone have been of immense value. As a result of a visit paid by him to New Guinea in 1896, new varieties of sugar cane were introduced to Queensland, including the variety known as Badila, which have proved of great economic importance.

When, in 1888, a Royal Commission was appointed in New South Wales to inquire into various schemes for the extermination of rabbits, Mr. Tryon was appointed as one of two Queensland representatives, and in this capacity, he did special service.

His work in connection with the suppression of prickly pear was also of great importance. He was the first to suggest the possibility of using natural enemies in combating the pest, and this suggestion led to the ultimate conquest of the pest.

Mr. Tryon published more than 150 reports and

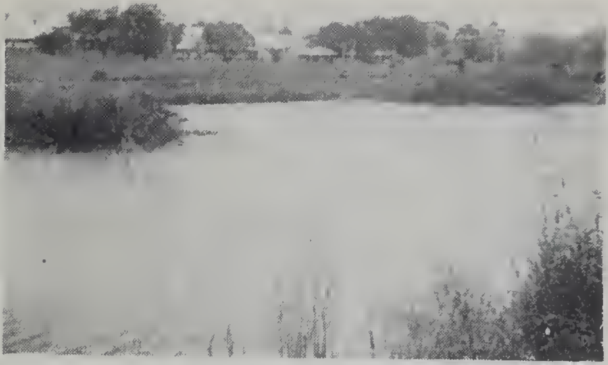


Fig. 1.—The larger lake.

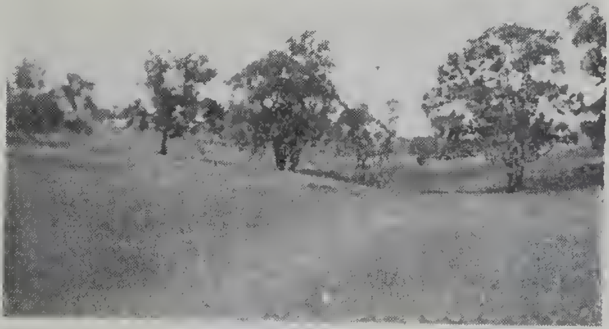


Fig. 2.—Section of the open country.

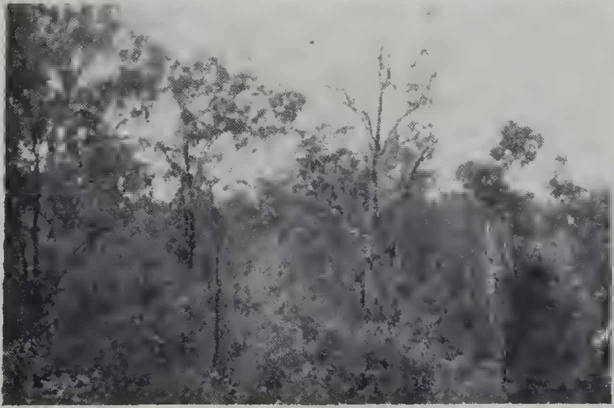
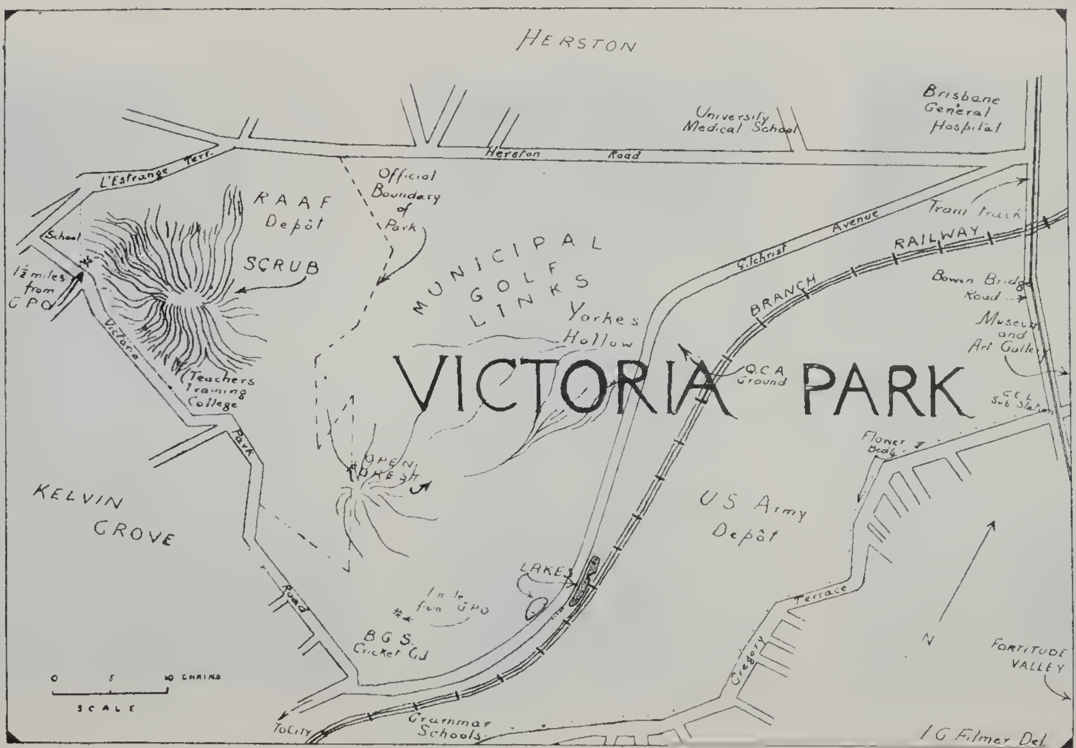


Fig. 3.—A view of the "scrub" looking north.
Photos: K. S. Harley.


HERSTON
Brisbane General Hospital
University Medical School
Herston Road
L'Estrange Terr.
School
1½ miles from GPO
RAAF Depôt
SCRUB
Teachers Training College
Victoria Park Road
Official Boundary of Park
MUNICIPAL GOLF LINKS
Yorkes Hollow
Gilchrist Avenue
Tram track
BRANCH RAILWAY
Bowen Bridg Road
Museum and Art Galle
VICTORIA PARK
Q C A Ground
C E L Sub Station
Flower Beds
OPEN MARSH
KELVIN GROVE
US Army Depôt
LAKES
1 mile from GPO
B G S. Cricket Gd
Terrace
Gregory
N
FORTITUDE VALLEY
0 5 10 CHAINS
SCALE
To City
Grammar Schools
I G Filmer Del.

Excursion to Sankey's Scrub 8th August, 1908

Camp at Moreton Island. September 1903

papers dealing with entomology, botany, plant pathology and other subjects. Among these were numerous papers given to the old Natural History Society and the present Club. He passed away at Brisbane on 15th November, 1943.

Another prominent foundation member was Dr. John Shirley. Born at Dorchester, England, he arrived in Queensland in 1878 as one of a party of trained British teachers brought out to the Department of Public Instruction. For some years he was engaged in the teaching profession, and his appointment later as Inspector of Schools gave him innumerable opportunities of pursuing his favourite study of natural history. After leaving the service of the Education Department he was appointed Conchologist to the Queensland Museum. He was a versatile writer on natural history. His wide experience and breadth of knowledge were always at the disposal of others.

The name of Rowland Illidge stands out prominently among Australian naturalists. Born in London, he came to Queensland at an early age, and started out in life as a teacher. After spending some years in that profession and a period in the railway service, he was for many years on the staff of two insurance companies. In 1885 he made his home at Bulimba, on the right bank of the Brisbane River, where he introduced native trees and plants—somewhat of a novelty in those days. Although best known as an entomologist, he had a wide knowledge of our native birds, and he explored thoroughly the area around Brisbane and Moreton Bay in the pursuit of his hobbies. Various parts of Queensland and also Western Australia were visited by him with the same object. In addition to being a foundation member of the present Club, he was also an active member of practically all the societies in Brisbane connected with natural history. In 1926 the Royal Zoological Society of New South Wales did him honour by electing him an Associate Member. Mr. Illidge collaborated with the early naturalists in Queensland and earned considerable distinction. Quite a long list of published papers lies to his credit, many of them containing original work. Quiet and unassuming, he had a wealth of knowledge that he was always ready to impart to anyone seeking it, and hardly a meeting of the Club passed without a contribution from his hand. Rowland Illidge had one of those lovable natures that are unfortunately too scarce, and his demise was a great loss to science in Queensland.

Other prominent workers among the foundation members were L. C. Green, George Gross and J. Douglas Ogilby, Geology, Conchology and Icthyology being their respective spheres. Each was a specialist in his particular line and gave strong assistance to the Club.

Soon after foundation came, W. R. Colledge, by whose death on 26th August, 1928, the Club lost one of its most foremost workers. He was born in the North of England, but spent the greater part of his life in Queensland. He was interested in microscopy, more especially in pond life, in which branch he carried out much original work, particularly among Rotifers. Practically every Club meeting he had something to communicate, and his talks always gave pleasure to his listeners. He contributed a goodly number of papers both to the Club and the Royal Society.

Cyril T. White, the present Government Botanist, grandson of F. M. Bailey, has been keenly interested in the Club from his youth, and has been a tower of strength to it. Other members who have rendered yeoman service are G. H. Barker and H. A. Longman, late Director of the Queensland Museum. No further reference is made here to these valuable members as they are of the present generation.

Two prominent naturalists and early members who should not be forgotten are John R. Sankey and John O'N. Brenan. The former was a member of the Field Naturalists Section of the Royal Society formed in 1886 and used to roam the countryside with Rowland Illidge in those far-off days. Mr. Brenan had a most extensive knowledge of our native birds, by which the Club benefited on many occasions. Dr. T. P. Lucas was another of the early members. He was recognised as an expert on moths, and often he could be seen collecting those interesting insects round the electric lamps in the city. Then there was Edmund Jarvis, an entomologist with artistic skill in portraying insects.

Professors H. C. Richards and T. Harvey Johnston joined the Club in 1910 and 1911, respectively. The latter was President in 1916. Both have given papers to the Club and assisted in other ways.

In July, 1915, the Club elected a number of naturalists as Honorary Members in recognition of their having advanced the knowledge of natural history in Queensland. They were F. M. Bailey, C. W. De Vis, W. R. Colledge,

S. B. J. Skertchly, J. Douglas Ogilby, Dr. John Shirley and Dr. A. J. Turner.

From the outset the Club made a strong feature of field excursions. In those days places of interest were more easily accessible than they are to-day. People wandering about the country in an endeavour to enlarge their knowledge of nature's secrets seemed to be regarded as "cranks" and it may be that their behaviour at times to some extent encouraged this belief. One such instance comes to mind. During an excursion to Mt. Coot-tha a known entomologist went down on his knees beside the track and commenced scratching the earth with his fingers. Two young girls who were walking along the track suddenly caught sight of him. One clutched the other by the arm and said: "I'M not going past him." Bird observers, too, have a habit of creeping stealthily forward in order to watch an unsuspecting bird, but as they usually carry out such observations in the more lonely spots, they do not excite so much interest. But imagine the effect on the mind of the uninitiated at the sight of a venerable gentleman like the late W. R. Colledge solemnly raking a pool of water with a tiny net and glass tube, and apparently getting nothing!

The first extended excursion was held at Toowoomba in 1907, during which public attention was drawn to interesting extinct volcanic craters in the local quarry. Early in the following year a Field Naturalists' Club was established in Toowoomba under the presidency of Dr. R. Hamlyn-Harris. As a result of the efforts of both Clubs, the Toowoomba City Council agreed to preserve the unique geological features in the quarry.

Extended excursions were also held at Gympie and Buderim Mountain in 1907; Bulwer (Moreton Island) and Caloundra, 1908; and Glass House Mountains, 1909. This policy of holding extended excursions and camps has been adopted with marked success ever since.

At Gympie, Prof. Skertchly was billed to deliver a lecture in the local School of Arts on "Gold : its History and Natural History"—a most attractive title for a gold mining community. The hall was crowed to excess, but the lecturer did not worry about the advertised title. With pockets bulging with paleolithic implements and flint arrow-heads, which he produced from time to time like a conjuror, he enjoyed himself thoroughly by discoursing for two hours upon his favourite subject of paleontology. The audience must have wondered when he was going to say something about gold.

In July, 1921, the Club amalgamated with the Gould League of Bird Lovers, and the first combined meeting was held on 6th March, 1922.

The Club may fairly claim to have done something towards fostering the study of natural history. In the early years excursions were held for school children, at which members of the Club attended and gave addresses designed to awaken the children's interest, while the Gould League did much to encourage children to love birds. Action by the Club also assisted to preserve native birds and animals.

A glowing tribute to the work of the Club was paid by a visiting scientist in 1921. Speaking to a newspaper representative he described the Club as "easily the most active body of its kind" he had met with in his travels, especially in relation to botany and birds.

THE BIRDS OF VICTORIA PARK, BRISBANE

By I. G. FILMER
Queensland Museum

Citizens of Brisbane are fortunate in possessing a number of parks, most of which attract some native birds throughout the year. However, Victoria Park, one of our city's largest reservations, receives but scant attention from bird-lovers through an assumption that many birds are unlikely to be found so close to the centre of the city. It is the primary aim of this article to refute such a belief. and to give some account of the many birds noted there by the writer. Secondly, through association with the Teachers' Training College, it is thought that students there who give nature lessons to State schools might appreciate some notes on the birds to be seen around their college. In view of this point, it should be noted that reserves in which the building is situated have been included in this account. These reserves are continuous with the park proper. The official boundary of the park may be seen from the accompanying map.*

Victoria Park is situated about 1½ to 2 miles from the General Post Office, on the northern side of the city. It comprises an area of 193 acres. Service personnel have been stationed in the vicinity for some years.

*On this map the direction marked N refers to Magnetic North not true North.

The park is divisible into five regions:—

(i) Two lakes; the larger with a little swamp and reed attached, the smaller with a small dense growth of reed (fig. 1).

(ii) Rank grassland, fringing the railway property and in some seasons stretching as far as Gregory Terrace.

(iii) Well–mown undulating lawns and golf–links, and flat playing-fields (fig. 2).

(iv) Open forest, with unmown grass.

(v) An open forest consisting mainly of tall saplings, but containing numerous large trees and scrubby undergrowth, the last mentioned mainly *Lantana*. This is marked Scrub on the map (fig. 3).

One of the first impressions received on a walk through the park is that a surprising variety of birds are often in such close proximity to the centre of the city. It is often impossible to hear bird song when walking along Gilchrist Avenue, because of the roar of traffic. While some species in the list below are single records, many are plentiful throughout the year, and it has been a source of interest to find that in winter there is no appreciable drop in the bird population from the spring and summer months. Seventy-two species have been listed from the park over a period of four years, the majority of observational trips being undertaken during 1945. While a fairly comprehensive list is claimed, it is considered that future visits will reveal new records.

My naturalist friend, Mr. Henry Bruce, of Gregory Terrace, also takes note of bird life in the park, and species observed by him which are additions to my list are marked with an asterisk in the list below.

ANNOTATED LIST OF SPECIES

(Nomenclature as in 1926 R.A.O.U. List)

1. **Geopelia placida** (Peaceful Dove): Uncommon; one pair seen in the camphor laurels near Gilchrist Avenue on 12/5/45.
2. **Podiceps ruficollis** (Little Grebe): Plentiful on the larger lake; a pair is often to be seen swimming or diving there.
3. **Phalacrocorax carbo** (Black Cormorant): Not so common as its relative, P. ater. Perches on snags or rocks in the larger lake.
4. **P. ater** (Little Black Cormorant): Plentiful, especially in spring and summer. Seen either in pairs or small flocks.

5. Microcarbo melanoleucus (Little Pied Cormorant): A common species, similar in habits to the other cormorants.
6. Lobibyx novae-hollandiae (Spurwing Plover): Occasionally heard on the lawns, usually during July or August.
7. Himantopus leucocephalus (White-headed Stilt).*
8. Tringa hypoleucus (Common Sandpiper).*
9. Burhinus magnirostris (Southern Stone-curlew).*
10. Threskiornis spinicollis (Straw-necked Ibis): Small flocks have occasionally been seen rising from the lawns; apparently not plentiful.
11. Platalea regia (Royal Spoonbill).*
12. Egretta alba (White Egret): Nomadic; fairly common in the swampy margins of the larger lake between February and September.
13. Nycticorax caledonicus (Nankeen Night Heron): Fairly common, mostly seen in the air. One bird seen in the reeds on 10/11/45.
14. Chenopis atrata (Black Swan): One of these noble birds was seen on the large lake in October, 1943.
15. Anas superciliosa (Black Duck): Fairly common on the large lake.
16. Astur fasciatus (Brown Goshawk) ?: On 24/11/45 a species of hawk with barred underparts was observed in open country. While probably this species, there is little to distinguish the young of this bird from Accipter cirrocephalus in the field, and therefore the record is indefinite.
17. Haliastur indus (Red-backed Sea-eagle): While in the vicinity of the lakes on 5/5/45, I looked up to see one of this species heading east. Evidently out of its course, it was an interesting note.
18. H. sphenurus (Whistling Eagle): Common; either single birds or pairs are to be seen or heard in any season of the year. It often soars to a great height, but is commonly seen circling over the tree-tops, scaring smaller birds.
19. Elanus axillaris (Black-shouldered Kite): Appears irregularly; often worried by magpie-larks.
20. Falco cenchroides (Kestrel): Fairly common over open country.
21. Trichoglossus moluccanus (Rainbow Lorikeet).*
22. T. chlorolepidotus (Scaly-breasted Lorikeet): Hundreds of these birds visit the park in spring-time, when the Jacarandas, Bauhinias, Silky Oaks and Flame Trees are in bloom. Gilchrist Avenue is lined with the above mentioned trees, and in October it is quite entertaining to stand beneath the branches laden with blossom to watch these birds waddling out to the blooms. In such circumstances they are almost fearless, and will approach within arm's reach. In other seasons of the year the species is represented by small flocks which keep to the tree-tops.
23. Glossopsitta pusilla (Little Lorikeet): Distinguishable from T. chlorolepidotus by reason of its inferior size and higher-pitched call; not so common as that species.
24. Eurystomus orientalis (Dollar-bird): A few of these birds appear in late September, and from then until March. Not plentiful.

25. **Dacelo gigas** (Laughing Kookaburra): Common throughout the park; sometimes birds cross to Bowen Park and the Museum Gardens.
26. **Halcyon macleayi** (Forest Kingfisher): Very plentiful during the breeding season (October to January), when its calls dominate those of most other birds. It breeds in termite nests throughout the reserve. Odd birds are present in other seasons.
27. **H. pyrrhopygius** (Red-backed Kingfisher): When in the vicinity of the lakes on 7/7/45, a Kingfisher with a striated crown and red lower back was seen. Obviously H. pyrrhopygius it was somewhat surprising to record it in the park, as its normal habitat is inland, away from water. However, another was seen in the locality on 21/7/45. Nothing more has been noted of the species since that date.
28. **H. sanctus** (Sacred Kingfisher): Evidently much scarcer than H. macleayi; birds seen on 16/6/45 and 12/1/46.
29. **Chalcites basalis** (Horsfield Bronze Cuckoo) ?: On 12/1/46 a young bronze cuckoo was observed near Gilchrist Avenue. It seemed probable that it was this species.
30. **Centropus phasianinus** (Pheasant–coucal): It was rather surprising to hear the loud "ounk, ounk" of this species when in the grounds of the Teachers' College on 15/9/45. The bird was hidden in a tree in the R.A.A.F. Depot, but its call was persistent throughout that morning.
31. **Hirundo neoxena** (Welcome Swallow): A very common species over all open country.
32. **Hylochelidon nigricans** (Tree–martin): Keeps to the scrubby areas; moderately common at certain seasons.
33. **H. ariel** (Fairy Martin): A common species in open country; breeds in the cloisters of the Teachers' College in spring.
34. **Rhipidura flabellifera** (Grey Fantail): Common in the scrub from January to July; is not present during the second half of the year.
35. **R. leucophrys** (Willie Wagtail): A very common and fearless species, often seen worrying raptors and other large birds.
36. **Monarcha melanopsis** (Black-faced Flycatcher): One of this species was noted in sapling scrub on 22/9/45. Evidently travelling south, it seemed exceptionally active, as though anxious to reach its normal habitat of jungle.
37. **Microeca fascinans** (Jacky Winter): Fairly common, and very trustful. One pair seem to regard an area on the crest of one of the slopes as their domain, where their attractive habits may be closely studied. Its sweet song is a feature of the springtime.
38. **Pachycephala rufiventris** .(Rufous .Whistler): .Common throughout the year. Usually frequents the scrub, but sometimes is noted in the open forest. Another songster which heralds the spring with dulcet notes.
39. **Colluricincla harmonica** (Grey Shrike–Thrush): Moderately plentiful in the tree-tops; possesses a charming variety of notes.

40. **Grallina cyanoleuca** (Magpie-lark): Abundant, especially on the lawns. Breeds in spring or summer.
41. **Coracina novae–hollandiae** (Black–faced Cuckoo–shrike): Common in all seasons.
42. **Lalage tricolor** (White–winged Triller): A visitor of the spring-time; is a trustful bird with a pleasing song.
43. **Sphecotheres vieilloti** (Southern Fig-bird): Common, as in most of suburban Brisbane. Prefers the trees nearer habitation where it calls monotonously throughout the day.
44. **Pomatostomus temporalis** (Grey–crowned Babbler): An uncommon species—occasionally heard over the slopes.
45. **Gerygone olivacea** (White-throated Warbler): A delightful songster, fairily common in the taller trees.
46. **Smicrornis brevirostris** (Brown Weebill): A common and ubiquitous little bird, frequenting alike the tallest trees and the low bushes. Specially numerous in the scrub, where one may examine the flocks with ease. Call–note resembles "we–need–it."
47. **Acanthiza chrysorrhoa** (Yellow–tailed Thornbill.: Moderately plentiful in open country, more especially that surrounding Gilchrist Avenue.
48. **Acrocephalus australis** (Reed–warbler): At any time of the year this delightful little bird is present in the reed-beds on either of the lagoons. In spring, the air is filled with its sweet song; it probably breeds then. One patch of reeds whicch forms part of the domain of the species is barely five yards from Gilchrist Avenue.
49. **Cisticola exilis** (Golden-headed Fantail–warbler): This species is the author of the animated rasping call–notes heard from the rank grass–lands throughout the year. In spring-time, when it calls louder and more often, its cries may be heard at some distance.
50. **Malurus lamberti** (Variegated Wren): An occasional visitor of the lantana patches.
51. **M. melanocephalus** (Red–backed Wren).*
52. **Neositta leucocephala** (White-headed Sittella): Sometimes seen exploring the stems of the larger trees in the scrub; not plentiful.
53. **Pardalotus punctatus** (Spotted Pardalote): Frequents the tops of the larger trees, occasionally flying down to the saplings. Its sweet call—"sleep–ba-bee" may be heard for some distance away.
54. **P. melanocephalus** (Black-headed Pardalote): Very common. Nesting tunnels of this species are to be seen in most ungrassed banks.
55. **Zosterops lateralis** (Grey–breasted Silvereye): Abundant in both the undergrowth and the tree–tops; nests in spring-time.
56. **Melithreptus lunatus** (White–naped Honeyeater): Plentiful in open forest and the scrub, where its call is often heard. Especially numerous in the saplings surrounding the Teachers' College.

57. **Myzomela sanguinolenta** (Scarlet Honeyeater): Tolerably plentiful, but more often heard than seen. On 14/7/45 dozens of this species were singing in the scrub, creating a very pleasing sound.

58. **Gliciphila indistincta** (Brown Honeyeater): Common in the dwarfed bushes in or near the scrub during the winter months. Its rich, fluty song is then heard at its best.

59. **Meliphaga lewini** (Lewin Honeyeater): Visits the park occasionally, when its ringing call resounds through the scrub. Sometimes it will appear near the path leading to the Teachers' College, when it shows no fear of pedestrians.

60. **M. chrysops** (Yellow-faced Honeyeater): Commoner than **M. lewini**, the "Chickup" keeps to the gully in the scrub, whence its call is fairly often heard, especially in winter.

61. **Myzantha melanocephala** (Noisy Miner): Not so common as in some other reservations in Brisbane; usually heard in the tree-tops.

62. **Philemon corniculatus** (Noisy Friar-bird): A common inhabitant of the eucalypts, whence it often calls. A pugnacious species, it is sometimes seen attacking Whistling Eagles and other large birds.

63. **Antnus australis** (Pipit): Although the lawns and nearby unmown grass form an ideal habitat for this species, it is not often seen.

64. **Aidesmosyne modesta** (Plum-headed Finch).*

65. **Oriolus sagittatus** (Olive-backed Oriole): Odd birds are heard occasionally. Their fondness for the crests of hillsides is shown by the fact that when heard, the bird is usually located near the top of the gully near the Teachers' College.

66.. **Corvus cecilae** (Crow): Moderately plentiful. Occasionally single birds will alight on the roof of the Teachers' College, creating a disturbance by their loud cries. Is of use in disposing of carrion, especially sparrows.

67. **Cracticus nigrogularis** (Pied Butcher-bird): Fairly common in open and open forest country. This species is often to be seen in the College grounds, where it searches in the rubbish-bins for food-scraps. Breeds in spring-time.

68. **Gymnorhina tibicen** (Black-backed Magpie): Uncommon; odd birds are seen from time to time. Usually noted in the grounds of the College.

Introduced Birds.

69. **Streptopelia chinensis tigrina** (Malay Turtle-dove): Exceedingly numerous throughout the park.

70. **Sturnus vulgaris** (Starling): Common in all types of country.

71. **Munia punctulata** (Nutmeg Finch): Fairly plentiful in long grass and the reed-beds.

72. **Carduelis carduelis** (Goldfinch): Not so common as other introduced species in Brisbane. There is but one record for the park. The Common Sparrow (**Passer domesticus**) is extremely common in all classes of country and the Domesticated Pigeon gone wild (**Columba livia domestica**) occurs plentifully at roadsides.

STATEMENT OF RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING 31ST JANUARY, 1946

RECEIPTS

	£	s.	d.
Balance Forward from 1944	83	1	7
Subscriptions	64	16	0
Sale of "Queensland Naturalist"	4	6	6
Sale of Nature Lovers' League Certificates	1	8	8
Surplus, Easter and May Day Camps	16	14	8
Bus Fares, King's Birthday	1	13	0
Interest at Savings Bank	1	13	10
	£173	14	3

EXPENDITURE

	£	s.	d.	£	s.	d.
Rent, Women's Club				12	5	0
Insurance, Bookcase and Library				0	2	10
Telephone	8	0	5			
Less Refund	2	10	0			
				5	10	10
Petty Cash				10	0	0
Barker's Bookstore—						
Magazines	2	6	0			
Books	3	4	10			
				5	10	10
Clark and Mackay—Printing "Naturalist" and Reprints				42	15	0
Hire of Bus, King's Birthday				4	15	0
Honorarium to Hon. Secretary				5	0	0
Balance in Bank				87	15	2
				£173	14	3

£40 War Savings Certificates held by George Street Branch of Commonwealth Bank. Receipt for same held by Hon. Secretary, Miss E. E. Baird.

	£	s.	d.
War Savings Certificates	40	0	0
Bank Balance	87	15	2
Total	£127	15	2

E. N. MARKS, Hon. Treasurer.

26/1/46.

C. W. HOLLAND, Hon. Auditor.

30/1/46.

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THE
QUEENSLAND NATURALIST

JOURNAL OF THE
QUEENSLAND NATURALISTS' CLUB
AND
NATURE-LOVERS' LEAGUE

"The Poetry of Earth is never dead."—KEATS.

The Author of each Article is responsible for the statements expressed therein

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The Queensland Naturalists' Club
AND
Nature Lovers' League

Official Journal—The Queensland Naturalist

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MEETINGS:

Evening Meetings are held at the Brisbane Women's Club Rooms, 148 Adelaide Street, on the Third Monday of every Month.

Excursions are held once or twice a month from March to December.

THE

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PROCEEDINGS

EVENING MEETING, 20th May, 1946.—The Vice-President, Mr. G. H. Barker, occupied the chair, and about 50 members were present. Mr. and Mrs. A. J. Hoole, Mr. R. Todd and Mr. F. A. McDonnell were elected to membership. The evening was devoted to reports of excursions. Mr. White spoke of the plants and Mr. Harley spoke of the birds noted on the hills at the back of Mt. Gravatt. The Easter excursion to Noosa was reported on by several members. The plants were discussed by Mr. Blake (general account), Mr. T. Hunt (orchids), Mrs. Jackson, Mr. White and Mr. Dunn. The geology was described by Dr. Marks and Dr. Hill. Mr. Mack spoke of the birds, particularly of their scarcity. Mrs. Jackson and Mr. Dunn tabled shells and Miss Clarke exhibited photographs and sketches.

EVENING MEETING, 18th June, 1946.—The President, Miss M. Holland, occupied the chair, and about 50 members and friends were present. The president extended a welcome and good wishes to Mr. Arundel on his recovery. The excursion to Kobble on Labour Day was reported on by Miss Coxon and Mr. Barker (birds) and by the president. Dr. Marks spoke on the "Save the Trees" campaign. Mr. C. Watson, of the Forestry Department gave an address on "Queensland Timbers," illustrated with lantern slides. A spray of rue was tabled by Mr. Bray and a drawing of a species of Pterostylis by Mr. Rupp.

EVENING MEETING, 19th August, 1946.—The President, Miss M. Holland, occupied the chair and about 50 members and friends were present. Miss L. Watson, Mr. R. A. Hunt and Mr. A. E. Roberts were elected to membership. It was reported that few flowers were seen on the excursion to Sunnybank; Miss Coxon reported having noted 25 species of birds. Mr. J. H. Simmonds gave an address on Malaria Control in New Guinea, illustrated by lantern slides. Mr. J. E. Young reported an unusual association between an Indian turtle dove and a peaceful dove. Mr. Dunn drew attention to a press paragraph referring to the shooting of plain turkeys and emus.

EVENING MEETING, 16th September, 1946.—The President, Miss M. Holland, occupied the chair, and about 40 members were present. Miss Whiteman was elected to membership. Miss Coxon reported on the birds seen during the previous Saturday's excursion. Mr. Mack tabled a specimen of jacana, and also pointed out that the bird commonly called "Indian turtle dove" is the Java spotted dove. Miss Holland gave some notes on the return of cuckoos and the presence of other birds at Toowong, and on behalf of Mr. C. E. Holland tabled a stone axe, a Venus' vase and Pelle's hair. An exhibit of wild flowers was staged through the efforts of several members. On behalf of Mr. Perkins, Miss Marks exhibited some spiders and a nest of the trap door spider. Specimens of paper made in Tasmania from eucalypts and cardboard made in Brisbane were shown by Mr. J. C. Smith. Miss Smith tabled some Japanese butterflies. Photographs and various publications were shown by other members.

EVENING MEETING, 21st October, 1946.—The President, Miss M. Holland, occupied the chair, and about 50 members were present. The president referred to the death of Mr. Arundel. Mr. Campbell was elected to membership. Various members reported on the excursion to Birkdale. The evening was devoted to a discussion on birds in which Miss Holland, Miss Coxon, Mr. Jack, Mr. Mack and Mr. Robertson took part. Mr. Mack also exhibited several specimens.

EVENING MEETING, 18th November, 1946.—The President, Miss M. Holland, occupied the chair and about 50 members were present. Miss D. Sandars and Mr. R. Roe were elected to ordinary membership and Mrs. Graham Oakey to country membership. The excursion to Mt. Glorious was reported upon by Mr. White (botany) and Miss Holland (ornithology). Mr. R. Lahey gave an address on National Parks. As it was the last meeting for the year, supper was served after the meeting.

NOTES ON THE GEOLOGY OF THE NOOSA DISTRICT

By DOROTHY HILL

The area between Cooroy and Noosa is of great variety geologically, for the Palaeozoic, Mesozoic, Tertiary and post-Tertiary eras are all represented by sedimentary or igneous rocks.

Palaeozoic rocks are first met with on the bus route from Cooroy to Tewantin. These are biscuit-coloured phyllites—very fissile, glistening rocks, seen in the gutters of Cooroy, and for some distance along the road. They are fine and even grained, rather monotonously uniform, and are believed to be the southerly continuation of the Kin Kin phyllites. They are fine sediments which have been converted into phyllites by the great heat and pressure of metamorphic processes, and they have been folded so that their original bedding planes are now at high angles to the horizontal. No fossils have ever been found in them, but they are thought to have been laid down under the sea. According to some geologists these Kin Kin phyllites are to be correlated with the older Palaeozoic Brisbane Schist Series; but others consider them to be younger Palaeozoic, equivalent to the barren slates at the top of the Permian Gympie Series. To the south of the road, these phyllites are intruded by the granodioritic mass of Mt. Cooroy, of unknown age.

Dark green to black lava flows and ashes, believed to be Mesozoic in age, replace these Palaeozoic rocks nearly at the road junction about a quarter-mile west of the road metal quarry in the property called "Fairview," on the Cooroy 1-inch military map. These are andesitic, and can be examined in this quarry. These relics of ancient volcanic activity give place, at the road junction at the top of the divide, to a series of brownish sandstones and shales. The sediments have been tilted so so that their original bedding planes are now at high angles from 10° to 20° to the ENE., but there is a little variation in their attitude. In the road cuttings they are seen to be intruded by a number of thin sheets of acid, light-coloured igneous rocks. Some of them, dykes, were injected in the molten state along joint planes; others, sills, were similarly injected along the bedding planes of the sediments. Cooling was so rapid in some of these dykes and sills that they show margins of super-cooled glass, where they touch the sediments. The sediments were only infrequently hardened by these intrusions; sometimes sandstone is seen to be hardened to quartzite, the heat having fused the edges of the grains of silica sand. Some of the sandstones are calcareous. But the whole series seems to have been laid down on the old continental surface, rather than under the sea, for in shales just below the first sill of felspar porphyry met with on the road, were plant fossils—a fern, *Cladophlebis australis*, and a conifer *Elatocladus planus*. These prove the Mesozoic age and the fresh-water nature of the sediments. But we cannot tell from them to which of the sediments of the Ipswich district they are equivalent—whether to the Ipswich shales, the Bundamba sandstone or the Walloon Series. So it would seem that, to allow these sediments to be deposited on land, this part of Queensland arose from the ocean after the deposition of the Kin Kin sediments; possibly at the time of the earth movement which folded the Kin Kin Series and changed them into phyllites. This sedimentary series, with its intruding acid sheets, continues nearly to Tewantin, where it disappears under the Recent coastal plains round Lake Doonella.

Sediments which, although they contain only woody stems as fossils, are similarly regarded as Mesozoic, come up again from under the coastal flat at Noosa and form the greater part of the high land there. These are particularly well seen in the walk around the headlands from Noosa, and are sandstones and shales which have been hardened and are now quartzites and indurated shales. At first they dip towards Noosa, but further east, the strata forming the main mass of the Noosa high land dip outward in all directions from a centre in Granite Bay. These sediments show good rectangular jointing and current bedding, and are bluish grey in colour. They are often intruded along joint planes by sheets of hornblende porphyrite. In the middle western part of Granite Bay, the sediments are intruded by a mushroom-shaped mass of quartz diorite ("granite"), considered by Dr. Jensen to be a laccolite, causing the outward dips of the strata above it; it contains fragments of partially digested sediments. It was probably this "granite" which, with its great heat, when it was intruded in the molten condition, fused the edges of the quartz grains in the sandstones, and thus formed the quartzites of Noosa. Just to the west of the "granite" mass, there is a swarm of andesite dykes; near to the "granite" and to the east of it is a series of aplite veins. A compound dyke is filling a joint plane in the quartzite, forming the cliffs at Noosa Heads; an andesite dyke occurs inside a hornblende-porphyrite dyke. Another hornblende-porphyrite dyke occurs in the headland at the south end of Alexandra Bay; while an andesite dyke is seen just south of the Paradise Caves.

In the Council Quarry, above the Noosa settlement, several hornblende porphyrite dykes are seen in the vicinity.

The ages of the "granite" and the hornblende porphyrite are unknown, but are probably Mesozoic. No rhyolitic or trachytic dykes were seen at Noosa.

Perhaps the movement which tilted the sediments on the road west of Tewantin accompanied the intrusion of the "granite."

The Tertiary era is represented by the great plug of an ancient volcano, whose outer cone has weathered away—the trachyte dome of Mt. Tinbeerwah, which pierces the Mesozoic sediments to the north of the Cooroy-Tewantin road. This particular plug is an especially interesting type of trachyte, with large phenocrysts of biotite, and some smaller ones of augite or hornblende. Although there are many other trachytic volcanic plugs of Tertiary age in coastal Queensland, such as the Glass House Mountains, only one other is known with a similar biotite trachyte, and that is Mt. Lawless, near Gayndah. Other plugs of this area are Mt. Coolum, Mt. Perigian, Mt. Pinbarren and Mt. Cooroora. Possibly the rhyolite or trachytic dykes and sills seen on the road belong to the same Tertiary period of igneous activity as these plugs.

Post-Tertiary time saw a mantle of wind-blown sand deposited on the quartzite of the Noosa high land; but the most extensive deposits formed in this recent period are those forming the flat marine plains between the salt-water Lakes Weyba, Doonella, Cooroiba and Cootharabah. These plains are only a few feet above sea level, and parts are inundated at king tides. They are almost level and in their natural state carry a close cover of vegetation. It has been suggested that the area of these plains and the lakes was formerly entirely inundated by the sea, and that a recent emergence of the land of the order of a few feet brought the high sand and mud banks which now form the plains out once more. This suggestion of emergence is perhaps supported by the occurrence of two wave-cut platforms some feet apart around the rocky headlands; and by boulder beaches, partly overgrown, some distance inland from and above the present shore line, between the headlands.

Black sands rich in magnetite and heavy minerals are common in the sand-banks and beaches at the mouth of the Noosa River. Near the mouth the river migrates – sometimes it is close to the southern bank, sometimes further out. Some of the sand islands in the estuary are very young and unvegetated; the ones to the south seem older and are vegetated.

An interesting white quartz gravel is seen in the low ridges on the south bank of the Noosa River, between Lakes Cooroiba and Cootharaba. The farm "Restdown," and its neighbour, are built on it. The gravel is rather small in size, and its origin and age are unknown.

Quite apart from the geology, the coastal features of Noosa are particularly interesting—there are fine potholes—particularly at the Boiling Pot; and some striking gulches—such as Hell's Gate and the Devil's Kitchen; also the Paradise Cave; these gulches and the cave seem to have been formed by the waves plucking out the blocks between two major joint planes in the quartzites.

I am indebted to Dr. F. W. Whitehouse for much of the information concerning areas not visited on this excursion.

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THE VEGETATION OF NOOSA

Being the General Botanical Report of the Easter Camp for 1946.

By S. T. BLAKE

In the vicinity of Noosa there is quite a variety of vegetation-types. The area examined was quite small, but as a result of this variety there was no opportunity for detailed work in the time available.

Along the coast itself three vegetation-types may be distinguished. Near the mouth of the Noosa River and extending up the river for some miles a mangrove forest is developed on mud flats which are covered at high tides (Fig. 1). The principal species noted are the Spider Mangrove, *Rhizophora mucronata*, with its characteristic stilt-roots; the Grey Mangrove, *Avicennia officinalis*, noted for the erect peg-like pneumatophores proceeding from the roots and projecting above the surface of the mud ("cobbler's pegs"); the Black Mangrove *Bruguiera gymnorhiza*, with its dense dark green foliage and peculiar knee-roots—the roots bend up at intervals, come well above the ground and then bend sharply down again; and *Ceriops Tagal* var. *australis*, a dwarf species with small yellowish leaves and a prominently buttressed short trunk. As a rule *Rhizophora* forms stands at the river edge of the mangroves and the *Ceriops* forms communities at the landward edge of quiet backwaters. *Avicennia* occurs in intermediate areas, though it sometimes forms the landward edge. *Bruguiera* is scattered.

Extending back from the landward edge of the mangroves is a salt marsh with tussocks of *Juncus maritimus* var. *australiensis* (maritime rush) in the wetter parts, and a turf of *Sporobolus virginicus* (salt-water couch) in the drier parts (Fig. 1). This passes into Eucalyptus forest.

Between the headlands and on Coolum Beach are sandy beaches with a series of dunes at the upper edge of the gently sloping beach. The fore-dunes are relatively low and are colonised chiefly by *Spinifex hirsutus*, with *Ipomoea pes-caprae* (goat's foot convolvulus), *Carex pumila* and *Zoisia macrantha* (coastal couch), particularly on the upper part. Behind the less stable edge *Zoisia* replaces *Spinifex* and is here accompanied by

Oenothera Drummondii, *Mesembryanthemum aequilaterale* (pig–face) and some plants of *Dianella caerulea*. All but the last mentioned are creeping plants. The dunes rise in height inland; perhaps they rest on rock. Here *Casuarina equisetifolia* var. *incana* (coastal she-oak) forms a zone of graceful trees with misty grey weeping foliage forming a delicate tracery against the sky. These trees are associated with some *Banksia integrifolia* (bottle–brush) and with a ground-cover of *Sporobolus virginicus* with *Lepturus repens*, *Mesembryanthemum aequilaterale* and *Ipomoea pes–caprae*. Behind this zone there is a tendency to the development of a scrub of more or less dwarfed and wind-blown small trees of *Banksia integrifolia*, *Petalostigma quadriloculare*, *Acronychia imperforata* and some *Canthium coprosmoides*. *Pandanus pedunculatus* occurs as isolated individuals rising above the general canopy of the scrub (Fig. 2). This scrub passes into Eucalyptus forest.

The rocky headlands are very windswept and support a short dense growth of grass a few inches high, chiefly *Themeda australis* (kangaroo grass), though *Eragrostis pubescens* and other species may occur. With the grass occurs a number of shrubs, greatly dwarfed by the wind and sometimes no higher than the grass. *Banksia integrifolia*, *Phebalium woombye*, *Pimelea linifolia*, and *Hibbertia virgata* are the most noticeable of these. An interesting yellow–flowering everlasting *Helichrysum oxylepis* occurs here and there, often in groups. Another yellow-flowered composite, *Podolepis longipedatum*, and the grass *Ischaemum triticeum*, are occasional, while a tree of *Pandanus pedunculatus* is to be seen among the rocks here and there. Seepage slopes are characterised by the prevalence of the more or less rush-like sedges *Scirpus nodosus* and *Cyperus polystachyos*, with which are associated the grasses *Ischaemum triticeum* and the naturalised *Axonopus compressus*. A dwarf scrub, similar to that on the sand, tends to develop inland from the grass, often associated with some sand overlying the rock, and this passes into Eucalyptus forest still further inland.

Eucalyptus forest in some form or other is the commonest vegetation–type (Figs. 3 and 4). The eucalypts include *Eucalyptus tereticornis*, *E. gummifera*, *E. micrantha* and *E. decepta*. On the highest ground exam–

ined the soil is of a podsolised type; *E. decepta* (ironbark), *E. gummifera* (bloodwood), massive trees of *Tristania suaveolens* (swamp mahogany), and occasional trees of *T. conferta* (scrub box) are the principal tall trees, perhaps 50 feet or more in height. A scattered understory of *Casuarina torulosa* (forest oak) is present, and an occasional smaller tree of the root-parasite *Exocarpus cupressiformis* (native cherry). The ground is fairly closely covered with grass, chiefly *Themeda australis.* A considerable area of forest country has a nearly completely sandy soil. The trees here are not so tall and are often less regular. *E. micrantha* (scribbly gum) is the common eucalypt, though *E. decepta* and others occur. There is a scattered understory of *Callitris columellaris* (sand cypress), *Casuarina*, *Banksia integrifolia*, and *B. serratifolia* (wallum). In places also there is a well-marked undergrowth of tall shrubs 8-10 feet high of *Leucopogon margarodes*, *Monotoca scoparia*, *Acacia falcata*, and *Phebalium woombye*. Where the undergrowth is sparse. *Acacia flavescens* occurs as a small tree and there is a dense grass cover about 3 feet high of *Themeda australis*, *Imperata cylindrica* var. *major* (blady grass), and a tall undetermined species of *Digitaria*, together with the sedge *Lepidosperma laterale.* Where this phase passes into the coastal scrub *Eriachne* spp. are noticeable. Where the undergrowth is dense the ground flora is sparser, consisting chiefly of *Lepidosperma laterale*, *Caustis Blakei*, and scattered grasses.

Some of the sandy areas are ill-drained and here the Eucalyptus forest grades into wallum country. The wallum appears to be very similar to that at Coolum, which has been described on a previous occasion (Queensland Naturalist, x,No. 6, 110-111: 1938), but only a small area was visited. The "flat" (really a gentle slope in this case) was not very rich in species. Christmas bells, *Blandfordia flammea*, were in flower unusually late in the season for this species. Almost all the flowers were nearly entirely yellow—only an occasional plant had much red in the flowers. Between the "flat" and the Eucalyptus forest is a broad zone of wallum scrub in which stunted eucalyptus (chiefly *E. gummifera* and *E. decepta* here). *Banksia serratifolia*, *Casuarina suberosa*, *Phebalium woombye*, and *Monotoca scoparia* are particularly noticeable.

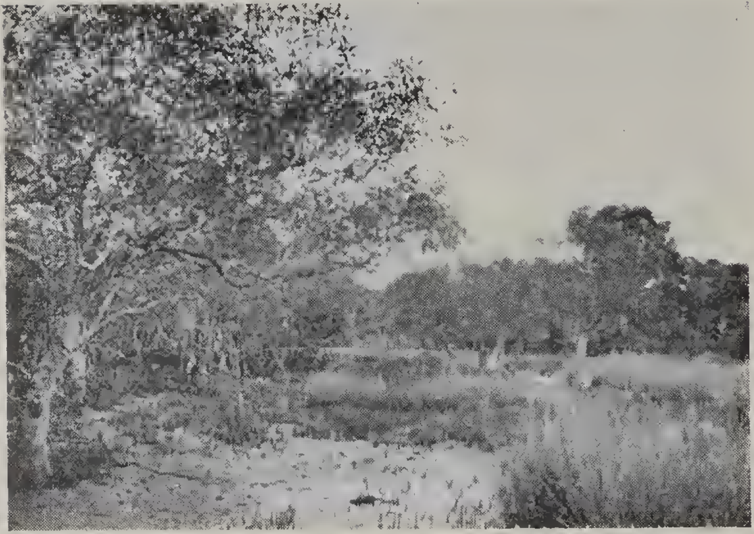


Fig 1.—Landward edge of mangrove forest; **Avicennia officinalis**, with pneumatophores visible in left foreground, and **Rhizophora mucronata** with aerial roots in middle distance. At the right is salt marsh with **Juncus maritimus** var. **australiensis** and (nearly in centre) **Sporobolus virginicus**.

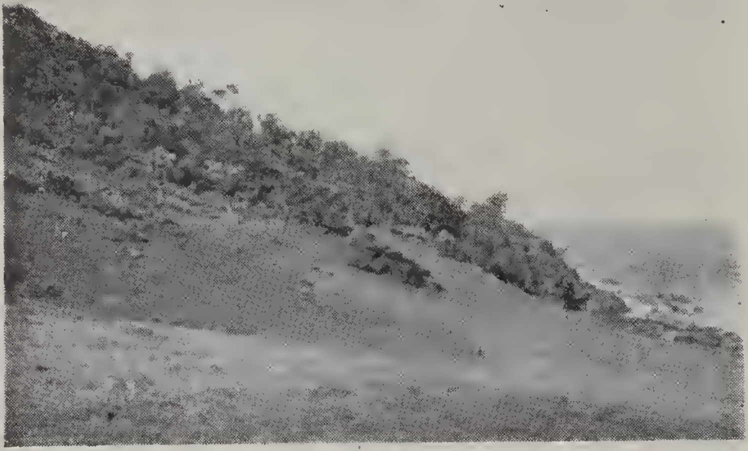


Fig 2.—Windswept foreland with dwarfed grass (Themeda australis) and shrubs in foreground and low scrub in the background.

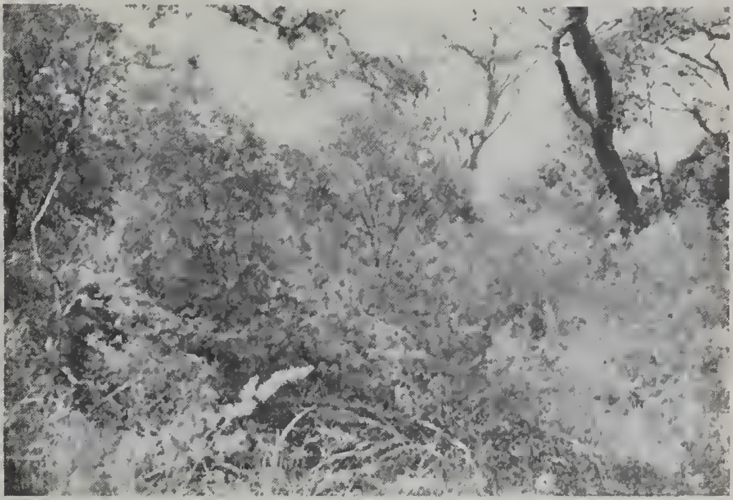


Fig 3.—Mixed open forest with dense undergrowth; the taller trees are **Eucalptus decepta** and **E. gummifera. Acacia falcata. Leucopogon margarodes** and **Monotoca scoparia** are prominent in the undergrowth.

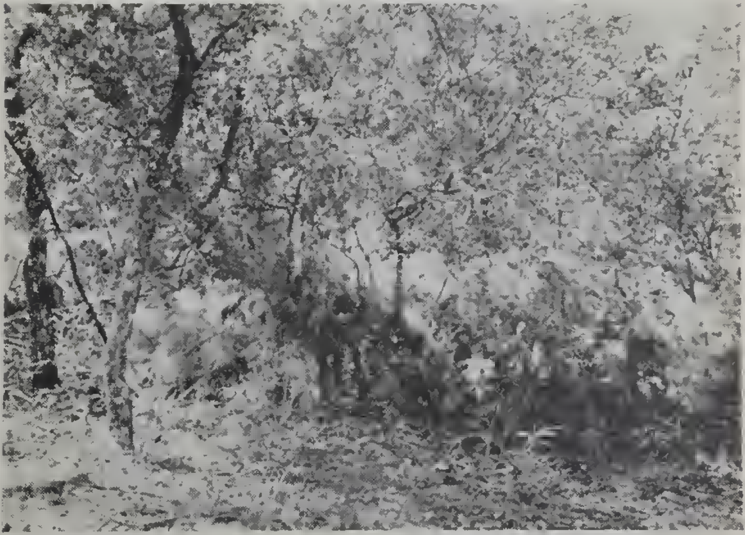


Fig 4.—Mixed open forest as in Fig 3 showing undergrowth. Trunks at right are **Monotoca scoparia.** The lower plants across the centre are a mass of **Caustis Blakei.**

Lepidosperma laterale, Trachystylis foliosa, and *Themeda australis* form a scattered ground cover.

One small swampy stream visited carried a fairly dense vegetation similar to that on the wallum flat, except that towards the mouth tall *Cladium procerum* was rather common, and the flattish margins carried a rather dense growth of the fern *Dryopteris gongylodes*, and a few plants of the rare grass *Arthraxon hispidus*.

Tall trees of *Melaleuca viridiflora* (paper–bark tea–tree) form dense stands in places on seasonally wet ground, sometimes with the coarse sedge *Cyperus lucidus* associated. Some of these stands are quite small in extent.

A patch of rain–forest was hurriedly examined on a hillside surrounded by Eucalyptus forest. This rain–forest is not very dense and is remarkable for the large number of seedling trees of the hoop pine *Araucaria Cunninghamii*. *Tristania conferta* is fairly common. *Sloanea australis* (maiden's blush) is also common as a small tree. Particularly on the lower ground *Calamus Muelleri* (lawyer vine) is common enough, and other lianas, including *Piper novae–hollandiae* (pepper), *Flagellaria indica*, and *Pothos longipes* also occur. *Platycerium grande* (stag–horn fern), *P. bifurcatum* (elkhorn fern), and *Asplenium nidus* (bird's nest fern) are fairly prominent and several orchids—discussed elsewhere—are fairly common. No filmy ferns were seen. A small *Lomandra*, probably *L. filiformis*, forms a conspicuous though sparse ground cover.

NOTES ON THE ORCHIDS MET WITH AT THE EASTER CAMP, NOOSA HEADS, 1946.

By TREVOR E. HUNT

From the point of view of one interested in our native orchids the stay at Noosa was all too short, as only a cursory inspection of a really interesting piece of country was possible.

As a rule each type of country has its own particular selection of orchids so that some are to be sought in swampy land, some in deep scrub, some in open forest and so on. There at Noosa in a very small area, we had many types of country, scrub, forest, heath and swamp. Taken over the full range of the seasons the area should be very rich in species. The autumn is not a good time of the year to hunt for orchids as few of the epiphytes are in bloom and the bulk of the terrestrials are not even above the ground. Altogether twenty-seven species from sixteen genera were noted.

Perhaps the most interesting finds were in the genus *Prasophyllum.* One small strip of land on the margin of a swamp yielded four species and a variety of which four are new records for Queensland, although one of them is from Dr. C. P. Ledward, who had found it at Burleigh Heads some days before Easter. It was unfortunate that Mr. Dunn and I had little more than half an hour in which to search for specimens as the area was particularly rich and might have yielded other species. The first species found *P. aureoviride*, has an interesting history. In 1941 Rev. H. M. R. Rupp described it from a restricted area at Port Jackson and it was not known from anywhere else. On the day before we left for Noosa, I received a specimen from Dr. C. P. Ledward, who had found it at Burleigh Heads. When kneeling to admire a beautiful spike of a *Stylidium* growing beside the swamp, I put my hand on one there! Mr. Dunn and I then found it in abundance. Further search brought to light *P. aureoviride* var *Elmae*, *P. densum* and *P. Ruppii*, all previously unknown in Queensland, and *P. rufum.*

These swampy areas showed also colonies of *Pterostylis parviflora, the* "Baby Greenhood," *Spiculaea irritabilis*, an *Acianthus* species, probably *A. fornicatus*, which were just showing their buds, a few spikes of *Dipodium punctatum* with ripening capsules, while here and there *Caleana major*, the "Flying Duck," was pushing its russet leaves through the sandy soil.

An hour or so spent in each of two scrubs showed the following species. *Galeola cassythoides* was springing away to new life and, in one particular case, producing an enormous group of stems almost sufficient to cover a large old stump. It would be a magnificent sight when in flower. This species was met with again in the forest country. *Oberonia Titania* was in full bloom in one scrub, but was not met with at all in the other. *Calanthe triplicata* was growing strongly. Long may it escape the attentions of vandals! Its tall, graceful heads of white flowers could find no better setting. *Cymbidium iridifolium* was plentiful, with a surprising number of small seedling plants. In one scrub *Ornithochilus Hillii* was abundant, but absent from the other. With it were occasional plants of one of the *Sarcanthinae*, probably *Saccolabium brevilabre*, but it was not in flower. In these scrubs the Dendrobiums came into their own, but were not really plentiful. *D. tetragonum*, *D. gracilicaule*, *D. monophyllum*, *D. Mortii* and *D. linguiforme* were met with. The favourite host of the last appeared to be the pine trees—*Araucaria Cunninghamii*. The only *Bulbophyllum* seen was *B. aurantiacum*.

In the open forest *D. aemulum* favoured its usual host *Tristania conferta*. *Cymbidium suave* and *C. canaliculatum* were fairly common, while *Geodorum pictum* could be found almost anywhere in the open.

A little swampy pocket near the sea provided a solitary plant of *Phaius Tankervilliae*.

It was surprising that no plants of the common *Dendrobium speciosum* were seen and no species of the genus *Sarcochilus*. Also one would expect to find the rosettes of several species of *Pterostylis*, but perhaps we were a little too early or a little too short of time.

A visit in the springtime, with leisure to comb the swamps, the hillsides and the heath, should prove full of interest to all botanically minded and to the lovers of orchids in particular.

NOTES ON SOME FUNGI FOUND AT NOOSA

By R. F. N. LANGDON

Some interesting fungi were observed during several walks through the country adjacent to Noosa.

A member of the mushroom family, a bright red species of *Hygrophorus*, was found in wet ground on the edge of the heath country. This fungus was abundant in a restricted area of a few square yards and stood out prominently among the grasses and sedges because of its bright colour and smooth wavy surface.

In a patch of rain forest, *Symplocos* was found with the fungus *Telimena* parasitic on its leaves.. Small round black patches, about ⅛in. in diameter, with a shiny surface occur on the upper side of infected leaves. This is the first record of *Telimena* in Queensland. Various kinds of bracket fungi of the genera *Fomes*, *Polyporus* and *Polystictus* were found in the rain forest on logs and fallen branches. These fungi play an important part in the rapid decay of wood on the wet forest floor.

On wattles, the large galls caused by the rust fungus, *Uromycladium tepperianum* were not uncommon. Many of these galls were inhabited by wood-boring insects, but the borers are only secondary invaders, the initial cause of the swellings being the rust fungus.

The ubiquitous paspalum ergot was observed on *Paspalum dilatatum*, but the native species *Paspalum orbiculare* was not infected.

BIRDS OF NOOSA

THE ORNITHOLOGICAL REPORT OF THE EASTER CAMP, 1946

By MARGARET HOLLAND

The site of the Easter Camp gave our ornithologists fine opportunities for observing ocean, forest and scrub birds. Sea birds proved disappointingly few—the silver gull, crested tern and red backed sea eagle. On our trip up the Noosa River three cormorants were encountered—the black, pied and little pied. The familiar white faced heron was feeding on the edge of the river and several Australian egrets were espied. The monotony of the endless mangroves was broken by the brightness of azure, forest, sacred and mangrove kingfishers. On the mud flats at the estuary of the river the song of the mangrove warbler could be heard, but not for long, as the sandflies rendered conditions unbearable.

The whistling of the whistling eagle awakened us first thing in the morning from a majestic gum on the front lawn. Little wattle birds, magpies, little friar birds, scaly-breasted lorikeets, grey fantails, rufous whistlers and grey thrushes made merry within sight and sound of our boarding house. Did I omit the brown honeyeater? How could I? At the time I rather hoped I might never hear it again. We went for a day's outing to Alexandra Bay and it was a case of brown honeyeaters all the way. On our left the deep blue sea, on our right the green hill and banksia trees and brown honeyeaters in myriads. Still they certainly can sing.

The return journey through the swamp was accomplished by some of us at a very quick walk, the while we waved twigs about our ears in an endeavour to discourage the hungry hordes of mosquitoes. I rather suspect the birds were observing us!

In the patch of scrub at the top of the hill the golden whistler, northern yellow robin, blood bird, rufous fantail, spangled drongo and mistletoe bird were noted.

The open forest just beyond the mud flats provided observations of the white–eared flycatcher, rufous shrike, thrush, varied triller and spectacled and leaden flycatchers. The white–eared flycatcher is rather rare, although it has previously been noted by the Club both at Noosa and Stradbroke Island. We had a chase after the white–throated tree-creeper whose call so strongly suggested that of the yellow robin that only the sight of several birds clinging to the trunks of some pine trees in true tree–creeper fashion, convinced us. Other voices in the chorus were those of the lewin and white-naped honeyeaters, rainbow bird, white–throated warblers, the peaceful and bar–shouldered doves and the unmistakable descending trill of the fantail cuckoo. There was a remarkable absence of small birds, our list of 67 not including a single wren or thornbill.

NOTE ON THE MOSQUITO FAUNA OF THE NOOSA-TEWANTIN AREA

By ELIZABETH N. MARKS

The coastal areas and islands in the vicinity of Moreton Bay have a characteristic fauna of mosquitoes to which the species encountered in the Noosa-Tewantin area belong.

At Easter, 1946, *Aedes vigilax*, the common black "bush" mosquito, was a definite nuisance wherever one journeyed into the bush. Far more troublesome, however, was *Aedes funereus* when it attacked a party who landed on the bank of the Noosa River between Lake Cooroibah and Lake Cootharabah. This small black species has a more painful bite than *vigilax* and it was present in enormous and literally unbearable numbers near its breeding places in a drying-out teatree swamp a few yards from the river bank. Another biting species which attracted attention by its size rather than its numbers was the "Scotch Grey," *Aedes (Mucidus) alternans*.

In a steep-sided rocky gully where a small fresh water creek flows on to the northern end of Noosa Beach, a variety of species was biting. In addition to those mentioned above, *Aedes similis*, *Aedes rubrithorax*, *Aedes kochi*, *Taeniorhynchus uniformis*, *Culex sitiens*, *Culex annulirostris* and *Culex sp.* (near *cylindricus*) were collected. Larvae of *Aedes kochi* were found in water in the leaf-axils of *Pandanus* growing along the sides of this gully. These larvae are clothed with stiff many-branched stellate hairs which enable them to crawl for considerable distances over a moist surface, thus ensuring their survival when some of the axils dry out. The adult is ornamented with black and white bands and spots on proboscis, legs and wings. It is a common pest species in New Guinea and New Britain, where it has been proved an efficient vector of filariasis. Though numerous *Pandanus* plants were examined along the headlands and elsewhere, this was the only site where larvae of *kochi* were found.

In the swamp at the northern end of Noosa Beach a single specimen of *Aedes lineatopennis* was taken biting. This dark species is readily recognised by the bright, deep yellow bands on either side of the thorax which meet in a V on the head. Though rarely more than an occasional specimen is met with in South Queensland, this species has a wide distribution through the Philippines, Malaya, India and Africa. In one or two puddles along the edge of the same swamp, larvae of *Anopheles annulipes* were found. These also occurred in a pool a little farther inland where they were associated with those of *Uranotaenia pygmaea* and *Culex sp.* (near *cylindricus*).

Larvae of *Aedes multiplex* were collected from pools in the teatree swamps on the banks of the Noosa River. Adults of this species are occasionally caught biting, but the larva, which is still undescribed, is very rarely found. Males reared from these larvae were of particular interest, as hitherto there were none available for study in collections in Queensland.

A MISSING PTEROSTYLIS

By the Rev. H. M. R. Rupp, Northbridge, New South Wales.

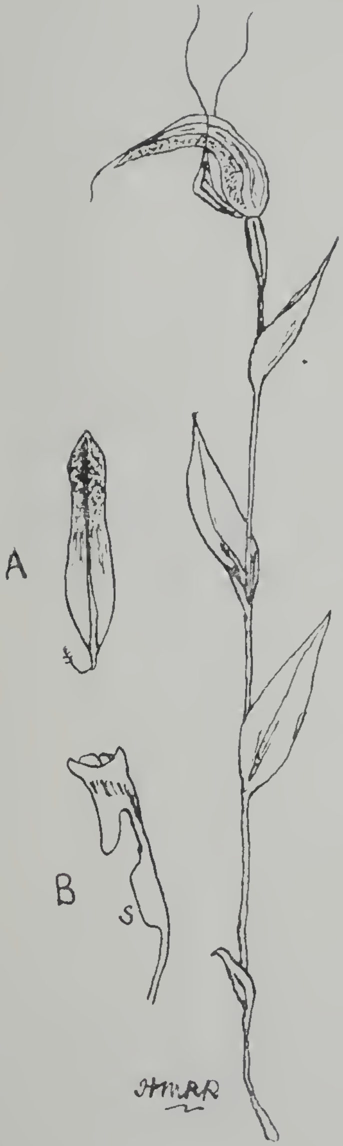
Twenty-one years ago Mrs. H. Curtis, then Miss Hilda Geissmann of "Capo di Monte," Tamborine Mountain, sent me two specimens of a Pterostylis which I have always considered to be an undescribed species. Unfortunately Mrs. Curtis—partly through leaving her old home and partly from other causes—has never been able to send me further material, and I am now appealing to orchid lovers of southern Queensland to keep a look-out for this little Greenhood, in order that it may be given a place in the Queensland orchid flora. That the two specimens sent were not merely abnormal forms of some other species seems certain, for the plant was well known to the sender, who had bestowed upon it the appropriate vernacular name of "Antelope Orchid." It seems to be most nearly related to P. **obtusa** R.Br., but the shortly acute labellum exceptionally large stigma, and other features clearly distinguish it from that species. Following is a description compiled from the specimens in my herbarium :

A slender plant about 12-15 cm high. Basal leaves not seen. Stem leaves 2-3, lanceolate; floral bract precisely similar to the stem leaves. Flower solitary, about 27 mm long round the curve of the galea, which is filiform towards the apex and slightly decurved. Lateral sepals erect, slightly gibbous at the sinus between their free portions, which are extended high above the galea into filiform points. Petals acute. Labellum irregularly oblong, abruptly acute at the apex; appendage small, pinnate. Column with long and rather narrow wings; stigma very large and conspicuous. Fl. May.

Should any readers of this journal find specimens agreeing with these details. I shall be very grateful if they could be sent either direct to me (24 Kameruka Road, Northbridge, N.S.W.) or to Mr. T. E. Hunt, 15 Challinor St., Ipswich.

REVIEWS

"**An Explorer and his Birds, John Gilbert's Discoveries** in 1844-45" by A. H. Chisholm (Brown, Prior, Anderson Pty. Ltd., Melbourne)—This book of 38 pages is devoted chiefly to an account of the ornithological work accomplished by John Gilbert during Leichhardt's Expedition from the Darling Downs to Port Essington in 1844-45. The material for the book was provided by Gilbert's diary which had apparently remained unread until discovered by Mr. Chisholm in a Hampshire village in 1938 while searching for documents left by John Gould. Gilbert first came to Australia with Gould in 1838 and remained for two and a half years, during which time he established for himself a high reputation as an active and reliable field ornithologist. His field observations formed the basis for much of Gould's work. He returned to Australia in 1842 and in September 1844



Pterostylis sp.?

A, labellum from above, enlarged.

B, column from the side, enlarged, showing the large stigma (s).

joined Leichhardt's expedition as naturalist. Until he was killed by blacks at the Gilbert River on June 28, 1845, he kept a detailed diary of the expedition which contains descriptions of new country with remarks on various aspects of natural history and comments on the conduct and experiences of members of the expedition in general and the leader in particular. A great deal of space was devoted to the birds taken and observed, more than 200 species receiving mention. These references include original observations on distribution, habits (feeding, nesting, etc.), abundance, anatomy and edibility. It is very unfortunate that Gould made no use of these observations when preparing "The Handbook to the Birds of Australia." Mr. Chisholm has devoted the greater part of his book to Gilbert's contribution to the knowledge of particular species and groups of species with numerous quotations from the diary. Four plates and a map illustrate this interesting and informative little book.

A **"Check List of North Queensland Ferns"** has been published by the North Queensland Naturalists' Club (November 1946) and is obtainable from the Honorary Secretary of the Club, Mr. J. Wyer, "Lochinvar," 253 Sheridan Street, Cairns. at the cost of one shilling. The list was compiled with the assistance of Mrs. D. A. Smith (Miss D. A. Goy) and its plan is similar to that of the "Check List of North Queensland Orchids" published by the Club in 1945. 220 species, 32 varieties and a few "formae" are listed with localities.

OBITUARY

The Club regrets the death of two of its members and extends its sympathy to the members of the bereaved families. On 11th October, 1946, Mr. W. Arundell passed away after some months of ill health. Born in 1877, he began business as a mechanical engineer and then in 1901 entered the service of the Brisbane tramways, eventually becoming chief engineer. Mr. Arundell was a keen ornithologist and as such was well known to the members of this club. He was its president for the year 1945. For many years also he was a prominent rifle shot. He leaves one son, his wife having pre-deceased him in 1931.

On 4th February, 1947, Mr. E. C. Holdaway passed away. Mr. Holdaway had been Officer in Charge of the astronomical branch of the Survey Office. He was also president of the Association of Engineers, Architects, Surveyors, and Draftsmen, was a Fellow of the Royal Astronomical Society, and lecturer in survey work of the Central Technical College. He had been both president and secretary of the Astronomical Society of Queensland. He has left a widow and two daughters.

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THE QUEENSLAND NATURALIST

JOURNAL OF THE
QUEENSLAND NATURALISTS' CLUB
AND
NATURE-LOVERS' LEAGUE

"The Poetry of Earth is never dead."—KEATS.

The Author of each Article is responsible for the statements expressed therein

-2 OCT 1947

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The Queensland Naturalists' Club
AND
Nature Lovers' League

Official Journal—The Queensland Naturalist

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Ordinary Members	10s. per annum
Country Members	5s. per annum
Junior Members	5s. per annum

Nature-Lovers' Certificate, 2d.

MEETINGS:

Evening Meetings are held at the Brisbane Women's Club Rooms, 148 Adelaide Street, on the Third Monday of every Month.

Excursions are held once or twice a month from March to December.

THE

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PROCEEDINGS

ANNUAL MEETING, 17th February, 1947.—The chair was occupied by the President, Miss M. Holland, and about 60 members were present. Miss A. J. Leslie was selected to membership. Reports on the excursion to Wellington Point were given by Mr. White (plants) and Miss Coxon (birds). The Excursion Secretary reported that arrangements were being made for the Easter camp to be held at Somerset Dam. The annual report was read by the Honorary Secretary, the Librarian's Report by Mrs. Jackson, the report on excursions by Mr. Barker and the Financial Statement by Miss Clark. The Election of Officers for the ensuing year resulted as shown on the inside of the front cover. The Club's regret at Miss Holland's departure for Canberra was expressed by Mr. G. H. Barker, as incoming President, and by Mrs. Jackson. Miss Holland thanked the speakers and then delivered her presidential address, "Ancient Bird Lore." She also exhibited the nest of a white-throated warbler. A letter from the President of the National Parks Association was read and tabled. Also read and tabled was a copy of a letter from the Secretary of the Sherwood and Corinda Progress Association to the Lord Mayor protesting about the state of the Sherwood Arboretum. Mr. Young spoke of the damage to the trees by stock and Mr. White gave a short history of the Arboretum. The meeting concluded with a farewell supper to Miss Holland, provided through the generosity of one of the members.

EVENING MEETING, 17th March, 1947.—The chair was occupied by the Vice-President, Mr. J. C. Smith and about 60 members were present. Miss B.

Groom and Miss I. Voges were elected to ordinary membership and Messrs. A. Cribb and Kelly, of Ipswich, were elected to country membership. Reports on the excursion to Mt. Coot-tha were given by Mr. Blake (botany), Miss Baird (birds) and Miss Marks (entomology). Mr. Barker detailed the arrangements for the Easter camp. The main business of the evening was an address by Dr. F. W. Whitehouse, on the Gulf Country.

EVENING MEETING, 21st April, 1947.—In the absence of the President, the chair was occupied by the Vice-President, Mr. J. H. Simmonds. Miss Junner was elected to membership. Reports of the Easter excursion to Somerset Dam were given by several members. Dr. Hill reported on the geology of the area, which was further discussed by Dr. Marks and Mr. Mack. Mr. Blake reported on the plants of the district. Mr. Harley listed 58 species of birds. Mr. Mack spoke of the fish. The excursion to Newmarket was reported upon chiefly by Dr. Marks, while plants collected during the afternoon were discussed by Mr. Blake. Miss Marks exhibited some wasps parasitic on caterpillars and some flower wasps. Mr. Harley tabled a lizard. Photographs were tabled by Miss Clark, Mr. Rowley and others.

EVENING MEETING ,19th May, 1947.—The President, Mr. G. H. Barker, occupied the chair and about 40 members were present. Misses Loye, Roache and Skitch and Messrs. Owen Jones, D. Bartlett and A. Gould were elected to membership. Miss Clarke spoke of the National Parks Association's outing to Cunningham's Gap during the Labour Day week-end, to which members had been invited and tabled some photographs taken there; Miss Marks also spoke of this trip. Mr. Smith expressed thanks to Dr. and Mrs. Marks on behalf of those members who had spent the week-end at Camp Mountain. The excursion to Sherwood Arboretum was reported upon by Mr. White, who stated that the arboretum was in a state of neglect and expressed the hope that a caretaker would be appointed soon. Miss Coxon reported the presence of nineteen species of birds. Mr. Sanderson screened films loaned by the Department of Public Instruction. Mr. C. T. White exhibited fruits of *Barringtonia* and *Parinarium,* which are often picked up on Queensland beaches. Mr. Mack drew attention to some of the work Miss Sandercock has been doing at the Museum in regard to paintings of birds. A nest of a fantail warbler and a cast snake skin found by Mr. Densil Curtis and a piece of magnetic rock from Magnetic Island sent by Dr. Marks were tabled. Miss Marks exhibited pupal cases from the Arboretum. Mr. Simmonds exhibited a piece of a banana plant poisoned by a fungus, a disease which affects sugar bananas. Miss Cock showed a deformed flower of a gaillardia, probably caused by a virus. Miss Earnshaw tabled a peculiar puff-ball. Mr. Barker exhibited a copy of "Birds of America" by Audubon. Mr. Smith exhibited a larva of a mountain grasshopper, some land shells, cowries, native spear points of glass and flint, and some photographs of former Club excursions, the last mentioned to be placed in the Club's scrap-book.

EVENING MEETING, 16th June, 1947.—The President, Mr. G. H. Barker, occupied the chair and about 40 members were present. Mr. Sandercock and Mr. B. Kelly were elected members of the Club. Mr C. T. White gave a lecture on "Australian Conifers," illustrated by numerous specimens. Mr. Barker spoke of birds he had recently observed in the Murray Irrigation Area. Mr. Dunn tabled some greenhood orchids growing in a pot. Miss Beth Smith showed a book of beautiful pictures of Japanese plants. Mr. J. D. Kelly exhibited unique photographs of a possum.

ANNUAL REPORT FOR YEAR ENDING FEBRUARY, 1947

Ladies and Gentlemen,

The Council of the Queensland Naturalists' Club presents the Annual Report of the work of the Club.

As usual, Natural History pursuits have been carried forward during the year at evening meetings and field excursions.

MEETINGS.—There have been nine evening meetings, nine field excursions and seven Council meetings during the year.

Attendance at Council meetings has been as follows:—Miss Holland, 7; Mr. G. H. Barker, 6; Mr.

Simmonds, 5; Miss Clarke, 7; Miss Baird, 7; Mrs. Jackson, 3; Dr. E. O. Marks, 5; Mr. Smith. 6; Mr. White, 6; Mr. Jackson, 6; Mr. Sanderson, 5; Mr. Blake, 4.

Attendance at evening meetings has been good, the average being 51. Interesting and instructive lectures dealing with several aspects of Natural History have been given. The lecturers included Mr. C. T. White, Dr. F. W. Whitehouse, Messrs. Watson, Simmonds and R. Lahey. As usual the September meeting was devoted to exhibits, mostly wild flowers. Reports of excursions, including that held at Noosa during Easter, were given at the following evening meeting. Films from the Department of Public Instruction were shown one evening. Interesting specimens have been tabled and commented upon at evening meetings.

MEMBERSHIP.—The Club has suffered the loss by death of three of its members. Mrs. Latimer, of New Farm; Mr. Arundel, of Red Hill; and Mr. Holdaway, of Coorparoo.

Twenty-five new members have been elected and twelve members have resigned. Membership is now one hundred and eighty-six (186).

NATURE LOVERS' LEAGUE.—Little work in this direction has been done.

THE CLUB LIBRARY.—Books and magazines are available to members. Town members may borrow them at evening meetings; country members should apply to the Hon. Secretary if they need any.

"QUEENSLAND NATURALIST."—Two issues of the journal have been published.

GENERAL.—During the year the Club wrote to the City Council regarding the neglected state of the Botanic Gardens. The Council has now appointed a full time Curator and it is hoped that considerable improvement will take place.

The Club also regrets the state of the Sherwood Arboretum and is hopeful that at least a full-time caretaker is appointed in the near future.

E. E. BAIRD,
Hon. Secretary.

REPORT OF THE EXCURSION SECRETARY FOR THE YEAR 1946

The outings for the year commenced with a visit to Clontarf in February, on which Mr. Harley reported on the birds seen, and these included a number of Waders. Quite a lot of this end of the Peninsula was traversed and members were glad to discover a cafe at the end of the walk on that hot afternoon.

In March we journeyed to Salisbury. Mr. White reported on the botany of the area and Miss Coxen was the official bird observer and listed 29 species for the afternoon. During the afternoon interesting items other than Natural History were noted, specially the large masses of war material and Garrett locos lying idle.

April outing was a visit by bus to the Blunder Country to the south of Archerfield. Mr. White discussed the botany of the area and Mr. J. C. Smith gave an outline of the history of the settlement there and exhibited some photographs of some of the Gums seen. Mr. Barker recorded a list of birds seen, which numbered 25. The most evident flyer during our visit was the Aeroplane.

The Easter Excursion was arranged for Noosa Heads, where, through the good offices of Mr. Dunn, we secured accommodation for the whole party at "Hillcrest" Guest House, run by Mr. Jones and family and Mr. and Mrs. Hindmarsh. The choice was a happy one as it provided objects of interest for the different sections of club membership, and in addition provided a good surfing beach for all. All the surrounding country was interesting, and our day on the river and lakes by motor boat was both restful and instructive. Mr. Hunt noted a wonderful list of 26 native orchids and Mr. Blake had a long list of interesting botanical items collected during the four days, the most unusual being Christmas Bells in flower. Dr. Marks was the geologist and told us much of interest among the local formations. Mr. Mack said the birds were disappointing and numbers of both land and sea birds were well below expectations. We made a homely party in the evenings and some quite unexpected musical talent was unearthed, and as transport both ways was quite good, Noosa outing was voted a great success.

Our next outing was to the hills near Mt. Gravatt, at which a small party went over this familiar area. Mr. White was leader and re-discovered his old love in *Eucalyptus planchoniana.* Mr. Ken Harley noted over 30 species of birds for the afternoon, which was good for the season.

The King's Birthday outing was a basket picnic to Kobble Creek on the Dayboro Line, and the "get together" was appreciated by all. Miss Coxon listed over 40 birds during the short visit and a number of interesting plants and trees were also recorded.

The Labour Day week-end was spent at Camp Mountain. Through the repeated kindness of Dr., Mrs. and Miss Marks the members of the Club have become fairly familiar with this area, which always offers something of fresh interest. There is a considerable variety of plants and birds to be seen and the bora rings are an unusual feature.

In August we visited a well-known hunting ground at Sunnybank, but owing to the dry season it was a disappointing trip for flower hunters. Also there is little of geological interest and our rotifer hunters have unfortunately passed on. Birds also were scarce as Miss Coxon could only flush about 25 for the afternoon, all being old friends.

Our next outing (September) was to the Enoggera Water Reserve, where we had the curious experience of being the first public visitors to the reservoir since its closure after the outbreak of war, an honour of which we were duly appreciative. No botanist was with the party on that occasion, so, therefore, there is no list, but our observant Miss Coxon spied over 37 birds, which included a swan, several Jacanas and ducks. Members also spied several strangers with guns and numbers of straying cattle, which were duly reported to the City Council later on, and we hope steps were taken to have the area policed.

The October outing was a trip to Birkdale on the shores of Moreton Bay, and as this was Bird Month, it was largely a bird day. Unfortunately, the tide was high and most of the small waders were absent; interesting items, however, were Brolgas and Black Swans, otherwise the list was made up of our usual well-known friends of the Brisbane district.

The last outing of the year was to one of the best localities in the Brisbane area, Mount Glorious and its National Park. The National Park has recently been the object of attention by the Forestry Department and there is now a real good track through a fine patch of rain-forest. A number of unusual birds were noted, among them Bell Birds, Log Runners, a Scrub Turkey, several parrots, etc., etc.

This concluded the outings for the year, and considering transport difficulties still existing, it must be admitted that the programme was quite a good one.

GEO. H. BARKER,
Excursion Secretary.

LIBRARIAN'S REPORT FOR 1946

During the year the Library has been well used by members. A larger number of books have been lent, and recent additions have been much appreciated.

Now that war restrictions are being relaxed, a larger number of scientific works from overseas are being received, notable among these being a large consignment of back numbers of a German publication which had evidently been held in London during the war, and forwarded on cessation of hostilities.

We are now once more able to obtain regular numbers of the National Geographic Magazine, which has always been much in request among members.

Thanks are extended to those members who have presented welcome additions to the Library during the year.

Magazines are being forwarded to country members on request.

E. M. JACKSON,
Hon. Librarian.

PRESIDENTIAL ADDRESS—ANCIENT BIRD-LORE

By MARGARET HOLLAND

Superstitious beliefs are commonly attributed to the ignorant. Thousands of years ago everyone was ignorant and in their ignorance sought meanings for the various natural phenomena which were so much a part of their lives. Storms, great winds, etc., all called for explanation, and in their fear of what they did not understand, very naturally they attached awful significance to these happenings.

Death to our "rude forefathers" was a mystery. They were quick to notice that a dead body grew cold, and the tale was told that life was a flame within us, and in early myths the soul was represented as a flame. Later, when it was realised that breath as well as heat left the body, the soul was envisaged as a wind, and even as the wind, so does a bird fly. There is a race of people in South America who stuff the mouth, nose and ears of a dying man to prevent his soul flying out—hardly a comfortable condition in which to spend one's last hours! Even to-day, there are people who will tell you that departed spirits are floating over us, and perhaps the ancients are right and they are birds. How many of us have used the expression, "A little bird told me," without thinking? Way back in Ecclesiastes there is a man who says, "Curse not the King, no, not in thy thought, and curse not the rich in thy bed chamber, for a bird of the air shall carry thy voice, and that which hath wings shall tell the matter."

The Egyptians held the Ibis to be sacred and embalmed bodies of the birds have been found. In the History of Herodotus we find reference to the Ibis: "The story goes that with the spring the winged snakes come flying from Arabia towards Egypt, but are met in this gorge by the birds called ibises, who forbid their entrance and destroy them all. The Arabians assert, and the Egyptians admit, that it is on account of the service thus rendered that the Egyptians hold the ibis in so much reverence."

It is thought that the winged snakes referred to were locusts which approached Egypt in great swarms from the east, and the destruction of which was of great service. There is a record, however, of the skin of a partly digested snake being found by Cuvier in the intestines of one of the mummified birds. Further, the arrival of the flocks of ibis coincided with the inundation of the Nile, and the season of plenty, and this doubtless further endeared the ibis to the people. So for its virtues the head of the ibis became the representation of the God Thoth, God of Intelligence and the Moon, inventor of magic spells, numerical figures and time-keepers, "Lord of the creative voice, Master of words and books." He presided over the judgment of the souls of the dead and the penalty for intentionally or accidentally killing a temple ibis was death, a method of enforcing the law which might well be tried here.

The statement that the ibis destroyed snakes in large numbers is not considered reliable, but there were many stories told in Ancient Egypt of a snake–killing bird. This was the Secretary Bird of Africa, and the priests and seamen who visited Punt no doubt became familiar with its habits. It is thought to have suggested the form of the Horus myth in which the God as a falcon attacks the serpent form of Set, the slayer of Osiris. In any case, the myth of the serpent–slaying bird became widespread. In Egypt it was identified with the hawk and elsewhere was supposed to be the eagle. An interesting reference to this myth is found in the Iliad. When the Trojans were attempting to reach the ships of their enemies and still stood outside the fosse, they saw an eagle flying above. "In its talons it bore a blood-red monstrous snake, alive and struggling still; yea, not yet had it forgotten the joy of battle, but writhed backward and smote the bird that held it on the breast, beside the neck, and the bird cast it from him down to earth in sore pain and dropped it in the midst of the throng."

It is remarkable to note this eagle–serpent myth in Aztec mythology. From Prescott's *History of the Conquest of Mexico* we read an account of the founding of the City of Mexico in A.D. 1325, when the Aztecs reached a great lake, "They there beheld perched on a stem of a prickly pear which shot out from the crevice of a rock that was washed by the waves, a royal eagle of extraordinary size and beauty, with a serpent in his talons, and his broad wings opened to the rising sun. They hailed the auspicious omen announced by the oracle, as indicating the site of their future city. The legend of its foundation is still further commemorated by the device of the eagle and the cactus which forms the arms of the modern Mexican republic."

The serpent–slaying bird has a place too, in Indian mythology. The enemy of the serpent in India is the mongoose, so it is evident that their Garuda or serpent-slayer, is a memory of the African Secretary Bird. Even if we can account for the western myths, it is hard to see where the Mexicans found their inspiration, and we must leave that to the anthropologists.

From Herotodus, too, comes the first note on what was later regarded as the legend of the crocodile and the bird. Speaking of the crocodile, he says: "While all the other birds and beasts avoid it, with the trochilus it lives at peace, since it owes much to this bird, for the crocodile, when he leaves the water and comes out upon the land, is in the habit of lying with his mouth wide open, facing the western breeze; at such times the trochilus goes into his mouth and devours the leeches. This benefits the crocodile, who is pleased and takes care not to hurt the trochilus."

Somewhere about the year 1556 one John Leo published a book on Africa, in which he too mentions this curious friendship, the reason for which was told him as follows: "The crocodiles by reason of their continual devouring beasts and fishes, have certain pieces of flesh sticking fast between their forked teeth, which flesh being putrified breedeth a kind of worme wherewith they are cruelly tormented, wherefor the said birds flying about and seeking wormes, enter into the crocodiles' jaws to satisfy their hunger thereon, but the crocodile, perceiving himself freed from the wormes of his teeth, offereth to shut his mouth and to devour the little bird that did him so good a turn, but being hindered from his ungrateful attempt by a prickle which groweth on the bird's head, he is constrained to open his jaws and to let her depart."

In 1719 the story is again told by Paul Lucas and he repeats the idea of the bird forcing the crocodile to open its mouth by thrusting a prickle into the roof of its mouth. What these writers mistook for a prickle was obviously the crest of the bird, composed of feathers. At the end of the nineteenth century, a Mr. J. M. Cook published in the *Ibis*, an English ornithological journal, an account of his observations of crocodiles in Lower Nubia. He and his brother-in-law dug themselves in in a sandbank early one morning, and at about noon two large crocodiles came out of the water. They went on to the sandbank and to all appearances went to sleep. Several of the crocodile birds soon began to flit about the sleeping reptiles, and then through the field-glasses the observers saw one of the birds go deliberately up to a crocodile, apparently asleep. The reptile opened its jaws, in went the bird, and the jaws closed. In a minute or two the crocodile's mouth opened, the bird came out and went down to the water's edge.

The observers failed to see what the bird did at the margin of the river. Whether it vomited up any of the matters it had taken or merely drank remains a mystery. In a few seconds it returned to the crocodile and the whole performance was gone through twice more. Mr. Cook shot one of the birds, which proved to be a spur-winged plover. And so, thousands of years afterwards, on the corroboration of a Mr. Cook, we accept Herodotus' story of the crocodile and the trochilus. A similar set of circumstances is reported from the fish world. In Bermuda, William Beebe noted that after getting its face rather messy from feeding on living coral, a Giant Parrot Fish upends itself in mid-water and allows small wrasses (other sorts of parrot fish) to clean its teeth and scales of adhering debris.

What can be stranger than the history of the origin of the name of the Barnacle Goose? As late as 1661 Sir Robert Moray, the first president of the Royal Society, read a paper in which he described the bird-like creature which he had observed within the shell of the common ship's barnacle, and favoured the belief that a bird was really in this way produced by a metamorphosis of the barnacle. The legend seems to have originated in the East, where in the 11th century, Father Damien simply declares: "Birds can be produced by trees, as happens in the island of Thilon in India."

The notion that the Brent Goose which occurs on the marshy coast of Britain in great numbers, was the bird produced by the barnacle, was favoured by the fact that the goose does not breed in Britain, yet suddenly appears in districts where barnacles attached to rotting timber are often drifted on to the shore. It was accordingly assumed by learned monks—who had already heard the ancient tale—that this was the actual bird, and it was called the "Barnacle goose." Owing to the fact that the clergy were claiming the goose to be a fish rather than a fowl and eating it on fast days of the Church, Pope Innocent III. considered it necessary in 1215 to prohibit the eating of barnacle geese during Lent, since he maintained that though they were not generated in the usual way, they yet lived like ducks and must be regarded as such.

The tale persisted until the early part of the 17th century when some Dutch explorers found the eggs and young of the barnacle goose—like those of any other goose—in the far north on the coast of Greenland.

The solution of the mystery was published in 1895 by a distinguished French zoologist named Houssay. The Mykenaean population of Cyprus and Crete in the period 800-1000 B.C. were great makers of pottery, and painted earthenware vases and basins with a variety of decorative representation of fishes, butterflies, birds and trees. These artists loved to exercise a little fancy and ingenuity. They converted the sea-horse into a true horse, the sea-urchin into a hedgehog, and the sea-anemone into a flower. In much the same spirit they observed and drew the barnacle floating on timber thrown upon their shores after a storm. They detected the resemblance in the marking of the shells to the plumage of a goose, and brought the barnacle and goose together for purely artistic reasons, some of their fanciful drawings, half barnacle, half goose, easily giving rise to the myth. In the same way they fiddled about with the leaf design, curving it here and there until they evolved another goose. The barnacle goose myth was not known to Greece or Rome as the Mykenaean settlers and their art migrated to the remote region of the Caucasus.

Many of our clues to ancient bird lore come from the poets. What strange men are poets! They never seek to verify, they never doubt, year in, year out they rhapsodise over the same birds, and glibly repeat the age-old fallacies. That there is more poetry in Nature herself than in our heritage of heraldry and mythology is quite ignored by the majority of poets—for what have poets to do with facts?

There is a line from Keats' *Eve of St. Mark*, referring to "legless birds of paradise." How easy to pass it by and put it down to poetic licence? Yet years ago people did believe that birds of paradise had no legs, that they "floated aloof as though they lived on air," and fed on morning dew. As to generation, Nature is said to have made a hole in the back of the male where the female lays her eggs, hatches her young, and feeds them till they are able to fly—quite a contract for the young parents! And all because the savages of New Guinea, realising that the legs and feet detracted from the beauty of the bird's skin, and its consequent marketable value, cut them off. The plumage was in great demand throughout the East and Europe, its price being paid in pearls or slaves. One explanation was that the birds became intoxicated on nutmegs, and ants ate their legs as they lay helpless on the ground.

No real evidence can be advanced against the unfortunate owl. Here is a selection of epithets hurled at its head by the poetic fraternity—"The ill-faced owle, Death's dreadful messenger," "shrieking harbinger," "boding owl," "gloom bird," "moody owl," "deadlie screech-owl." There can be no doubt that the bird's displeasing call and the mere fact that it proceeded on its lawful occasions at night, prejudiced people against it. Many were the tales told of the owl as a bird of ill-omen. The death of Emperor Valentinian was presaged by an owl which sat upon the top of the house in which he used to bathe, and would not leave its station though stones were thrown at it. Julius Obsequens in his Book of Prodigies shows that "a short time before the death of Commodus an owl was observed to sit upon the top of his Chamber, both at Rome and Samvium." In 1542 comes a report from Wirtzberg in Franconia that "this unlucky bird by his screeching songs affrighted the citizens a long time together and immediately followed a great plague, war and other calamities." In England not so very long ago for an owl to brush past the windows of a house meant that death or great misfortune would overtake one of the inmates. For the poets, of course, it is enough to say that "owl" rhymes with "foul."

There is a legend that the owl was once a baker's daughter. The story runs that Christ went into a baker's shop and asked for bread. The mistress put dough into the oven, but the daughter scolded her for using too much and took a good deal away. When she brought the tiny bun to Christ it grew and grew and in her amazement she cried, "Heugh, Heugh," like an owl, whereupon Jesus turned her into that bird. This story is sometimes transferred to the busy woodpecker.

In Germany they will tell you that he is a baker, who in the ease of his counting house starved the poor, deceived them, and gave them false weight. And now, as a punishment, he works, and must work till the Day of Judgment, living on insects alone.

References to the kingfisher as the halycon are many.

It is called the "bird of calm that sits brooding on the charmed wave" and when dead "shows the change of winds with his prophetic bill," and further:

"Thus when the halcyon broods upon the tides
The winds are lulled."

There is, of course, an explanation for all this. A long time ago, Halcyone married Ceyx, who was drowned as he was going to Claros to consult the oracle. The gods told Halcyone of her husband's fate in a dream, and when his body was washed up next day on the seashore, she threw herself into the sea. They were both changed into birds who keep the waters calm and serene while they build and sit on their nests for 7, 11 or 14 days. Thus are kingfishers associated with serenity, and the word came into general use as an adjective. "Halcyon sleep will never build his nest In any stormy breast."

The belief that kingfishers could foretell a change of wind or weather was rife among mariners, and the corpse of a bird was sometimes hung from the mast, and the direction in which the beak pointed taken to indicate the quarter from which the wind would blow. Marlow writes in the *Jew of Malta*:

"But how now stands the wind?
Into what corner peers my halycon's bill?"

How well publicised has been the cuckoo, beloved from early times as the herald of spring? The strange thing is that the mean habits of the bird, and the revolting way in which the young cuckoo will push out the young of its foster parents, are almost entirely overlooked, and the arrival of the cuckoo is welcomed on all sides as giving like "the flowers that bloom in the spring" a "promise of merry sunshine." This, while the innocent cormorant is freely labelled "greedy" and "rapacious," is grossly unfair.

Pliny tells us that "vine-dressers were anciently called cuckoos because they deferred cutting their vines till that bird began to sing, which was later than the right time." This notion probably came to the Romans from the Greeks, for in Aristophanes' comedy, *The Birds*, is a passage relating to the cuckoo and the time of harvest:—

"In Sidon and Egypt the Cuckoo was King
They wait to this hour for the cuckoo to sing;
And when he begins, be it later or early,
They reckon it lawful to gather their barley."

In 1650 in Hill's *Naturall and Artificiall Conclusions* appears the following useful hint: "A very easie and merrie conceit to keep off fleas from your beds or chambers —Plinie reporteth that if when you first hear the cuckow, you mark where your right foot standeth, and take up that earth, the fleas will by no means breed either in your house or chamber where any of the same earth is thrown or scattered."

In the East the cuckoo is accorded more dignity and in Hindoo and Mohammedan tradition is sacred; in the former it is the suttee revisiting earth, and in the latter is one of ten animals permitted to enter the paradise of Mahomet.

Many quaint superstitions attached to the call of the cuckoo in England. If on hearing the first cuckoo sing a woman take off her left shoe, she will find therein one of her future husband's hairs. For good luck during the year the cuckoo must not be heard before the nightingale:

"It was a common tale
That it were gode to here the nightingale
Moche rathir than the lewde cuckowe singe."

In a poem of Carew's entitled *Spring*, the lines

"The warme sunne wakes . . . .
in hollow tree, the drowsie cuckoo"

are illustrative of the fact that many people believed that the cuckoo hibernated during the English winter. The ancients thought that in winter the cuckoo changed into a hawk, reappearing in the spring in its own form but with an altered voice.

In Germany the cuckoo is connected with the devil, and people say "The cuckoo only knows" very much as we say "the devil only knows." I can find no record of their use of the expression, "Oh, go to the cuckoo"—perhaps under those circumstances a stronger word is required!

So from the cuckoo to the nightingale, the Philomel of our poets, Spencer, refers to the nightingale as

"That blessed byrd that spendes her time of sleepe
In songes and plaintive pleas, the more t'augment
The memorie of his misdeede that bred her woe"

and this is the story. Tereus, the King of Thrace, was to escort his wife's sister, Philomela, to Thrace. On the way he offered her violence, then cut off her tongue and confined her in a lonely castle, journeying on to Thrace, where he told his wife that her sister had died on the way. Philomela described her misfortunes on a piece of tapestry and conveyed it to her sister, who hastened to release her. She then plotted as to the best means of punishing her husband. It was the time of the orgies of Bacchus, and Procne murdered her six-year-old son, Itylus, and served him up as food to her husband at the festival. During the feast, Tereus called for his son, whereupon his dutiful spouse informed him that he was at that very moment eating him, and Philomela produced the head of Itylus as proof. Tereus drew his sword to stab them to the heart, but straightway he was changed into a hoopoe, Philomela into a nightingale, Procne into a swallow and Itylus into a pheasant.

The poets being versed in the classics, sing the praises of the song of the nightingale with great gusto, constantly referring to the bird in the feminine gender:

"The love-lorn nightingale
Nightly to thee her sad song mourneth well"

for instance; whereas the cold truth is that only the male bird sings. And what a lovely picture it is—not of Philomela bemoaning her fate—but of the male bird singing to his mate as she sits on her eggs. So enraptured are the poets with the fact that the bird sings at night that they omit to mention that it also sings during the day, and even seem ignorant of its being a bird of passage. There are several smug references to "our nightingale" and "old England's nightingale." In Milton's sonnet is a further reference to the good fortune consequent on hearing the nightingale before the cuckoo:

"Thy liquid notes that close the eye of day,
First heard before the shallow cuckoo's bill,
Portend success in love; oh, if Jove's will
Have linked that amorous power to thy soft lay.
Now timely sing, e'er the rude bird of hate
Foretells my hopeless doom in some grove nigh.'

"The rude bird of hate," of course, is a polite reference to the cuckoo.

In looking through books of folk lore the term "vulgar error" is often encountered, and perhaps one of the most glaring of these is the statement by so many of our writers that the swan sings before he dies. Byron, in the Isles of Greece, "There swan-like let me sing and die"; Coleridge, "Swans sing before they die; 'twere no bad thing should certaine persons die before they sing." Mrs. Hemans invites us to stand with her among the reeds of a Grecian stream where "a lonely swan warbles his death chant," and there are many other examples. The only origin I have been able to find for this belief lies in the story of Cycnus. Cycnus was a great friend of Phaeton, whom all will know as the ambitious God who borrowed the fiery chariot for a day with such dire results. Deeply afflicted at the death of his friend, Cycnus lamented loud and long and in the midst of his grief was metamorphosed into a swan. The young of the swan are called cygnets, from the Latin word, *cycnus, cygnus*, a swan.

Magpie lore alone would take some little time to discuss. The bird has not the best reputation in the world. In Phil Robinson's book *The Poet's Birds*, he tells us that the magpie is said to lie under Noah's curse because when the other birds came into the Ark of their own accord, it alone gave trouble, and had to be caught. He adds in his own inimitable style, "What a delightful idea—the whole of Noah's Ark waiting to start, till Japhet caught the magpie."

There are many doggerells dealing with the prophetic appearance of magpies: "One for anger, two for mirth, three for a wedding, four for a birth, five for a fiddle, six for a dance, seven for England, eight for France." In another form one is unlucky, but the approaching disaster is popularly supposed to be averted by turning thrice round—it would be a pity to say three times. In 1801, in Leyden's *Glossary to the Complaynt of Scotland*, we read that "many an old woman would more willingly see the Devil who bodes no more ill-luck than he brings, than a magpie perching on a neighbouring tree"—which, if it be true, is convincing proof of their belief in the pye's prophetic powers.

The crow is no more fortunate and somehow has ended up with every man's hand against him. Once as beautiful as the mythical Phoenix, for its sins, the crow's plumage was scorched to the cinder it is. The most ancient Cingalese writings tell of the Original Sin of the Crow. "In wrath for their tale-bearing—for had they not carried abroad the secrets of the councils of the gods?—Indra hurled them down through all the hundred storeys of his heaven," and more incrimmating still we are told "that nothing can improve a crow." In Thibet there is an evil city of crows, in Norway a "Hill of Bad Spirits," where the souls of wicked men fly about in the likeness of crows, and in Sweden "the Place of Crows and Devils." The poets are almost unprintable when it comes to crows.

Apart from all this, even in Roman days

"The cawing crow was to the State
A sure interpreter of fate."

In the Earl of Northampton's *Defensative Against the Poison of Supposed Prophecies* (1583) we read: "The flight of many crowes uppon the left side of the campe made the Romans very much afrayde of some badde luck; as if the great God Jupiter had nothing else to doo (said Carneades) but to dryve jacke daws in a flocke together" which is very much to the point and shows what he thought about it.

It is interesting to note that the crows being on the left hand side was of ill-omen. In this the cults of East and West differ, for in India the left hand side is the lucky side. An interesting statement from a native commentator in *Essays on Sanskrit Literature* says: "Peacocks, chatakas, chashas (blue jays) and other male birds, occasionally also antelopes, going cheerfully along the left, give good fortune to the host." Obviously the Traffic Department discounted the Roman theory when they inaugurated their "Keep to the Left" rule.

Another bird that has been misjudged from Aristotle down to the 18th century is the nightjar or goatsucker. It is the appellation "goatsucker" with which fault is found. The Italians started it by reporting that nightjars sucked the teats of goats at night, and in England it was suspected of inflicting calves with distemper. All this is quite erroneous, as the nightjar is purely insectivorous.

In Waterton's *Wanderings in South America*, 1812, he relates with what dread the natives regard the nightjar. Jumbo, the demon of Africa, has them in power, and they are the receptacles for the departed souls who come back to earth unable to rest for crimes done. No native will let fly an arrow at one. If a large goatsucker chance to cry near their huts, sorrow and grief will soon be inside the door, and they await the event in terrible suspense. Waterton tells how he stands in the moonlight and watches the goatsuckers flitting around a herd. They jump up every now and then and catch the nocturnal flies as they alight on the belly, udder and legs of the animals. In his quaint way, Waterton commiserates with the nightjar: "Poor injured little bird of night, how sadly hast thou suffered and how foul a stain has inattention to facts put upon thy character!" Miss Baird has a most humorous and instructive little book which further informs us that the nightjar is known in France as the "tette-chevre" and not, as one might suppose, as the "vase de nuit!"

Of course, we don't go in for this sort of thing nowadays. We are far too advanced and wise. But perhaps, if I had only known, the owl in our camphor laurel the other night may have been trying to tell me that I was wasting my time trying to get an urgent assessment for the Income Tax Department. And I heeded him not. Still, we have the stars and the teacup readers, so who can say we haven't advanced?

NOTES ON TWO SPECIES OF AUSTRALIAN LYCAENID BUTTERFLIES, IALMENUS ICTINUS Hewitson AND IALMENUS sp.? (SCHRADERI (Feld.) ??)

By J. MacQUEEN, Mt. Evelyn, via Milmerran.

For the benefit of those readers who are not entomologically-minded, the family *Lycaenidae*, to which the two species concerned belong, is a very large one, containing many genera and species. Over one-third of the total Australian Butterflies belong to this family.

They are popularly known as Blues, Coppers, and Hairstreaks, on account of their general colouration and markings. Many are small and delicate, while others are larger, more robust bodily, and the wings stronger. The general colour is some shade of blue, green, purple, copper, red and yellow, but the majority of the species are of some shade of blue on the upper surface—often intensely brilliant.

The general entomological collector is inclined to pass over many of these more delicate species as being too small and difficult to handle. To the lepidopterist, however, they are a never ceasing source of interest and are much sought after by him—not only on account of their great beauty, but also because many are rare and extremely local in their occurrence, and their life-histories provide a most absorbing study.

While the larvae of most of the species are found associated with ants at some time, in some species—such as the two in question—the larvae are never found without the ant.

In some cases one species of larva is associated with one species of ant only—as in the present case—while in other species the larvae may be found associated with two or more species of ant. Needless to say you will not find two distinct species of ant attending one individual larva at the same time, as ants are not good mixers.

The reason for the ant's conduct in associating (usually termed attending or tending) with these larvae is that the larvae of many species of Lycaenids possess glands on the posterior segments which produce a liquid (probably sweet) which is much prized by the ants.

It is on account of this liquid secretion that the ants are so solicitous for the welfare of the larvae and pupae. In many cases the ants just associate with the larvae wherever they are, but in others the ants go to a great deal of trouble and even build shelters and nests in which the larvae can hide during the day. Then at night the ants accompany them when they go out to feed and no doubt guide them back to the shelter or nest again.

There are in Australia several species of these Lycaenid butterflies, which actually live as larvae in the ants' nest and are to be found amongst the ant larvae and pupae. There has been some doubt as to whether these larvae actually eat the ant larvae and pupae. From my own observations I can say that in one species at any rate they do.

I should like to draw the attention of any members —particularly country members—who are interested in the Australian butterflies, to a problem which has baffled both Dr. Waterhouse and myself for something like eighteen years.

There are many cases of so-called mimicry of one species of insect by another, but these seem for the most part to be easily solved by a specialist when he has both species before him. The case in which I am interested is of two of our Australian Lycaenid butterflies. They both belong to the same genus (*Ialmenus*). The larvae and pupae are both distinctive and anyone with any knowledge of the subject would have no difficulty in separating them. Each species is associated with an entirely different species of ant—not only are the ants of different species but they belong to different genera also—and in my experience each of these butterflies is found with its own ant and with no other. All these distinctions in the larval and pupal stages point to the fact that these butterflies are two distinct species, and yet the butterflies themselves cannot be separated.

I have been careful to keep only bred specimens and each is labelled so that I know where it belongs. I have about 100 specimens of each from this locality, and, try as I may, I cannot find one single constant point of difference between the two species. Dr. Waterhouse has seen and compared mine and he can find no points on which the adults could be separated, although he agrees that they must be distinct—he has seen both live larvae and pupae.

When Dr. Waterhouse visited England before the war, he took specimens of both butterflies to the British Museum, but the authorities on the family there could find nothing on which to separate them, and comparison with Hewitson's type of *Ialmenus ictinus* was no help.

Dr. Waterhouse prepared slides of the genitalia of all the species of *Ialmenus*, but found that in all the Australian species the genitalia were so very similar as to be of no real help.

One of these species is the well known *Ialmenus ictinus* Hewitson, which ranges from Kuranda (Q.) to Victoria, being more plentiful on the west of the Divide.

Dr. Waterhouse, in his Revision of Australian *Lycaenidae* (1903) lists *Austromyrina schraderi* (Felder) (1865) as a synonym of *Ialmenus ictinus* and it is his opinion that this *ictinus*-like species which we are now considering may be the *schraderi* of Felder. As there seems little probability of discovering whether this is so or not, it will probably always remain a mystery. However, we have been calling the rarer of these two *schraderi* in order to distinguish it from *ictinus*, which seems to be the commoner, and, as far as present knowledge goes, the more widespread. It will probably never be known to which of these two species it was that Hewitson gave the name of *ictinus*, but it seems most likely that it was to the well-known species. It is probable that many collections contain both species under the name *ictinus*, and until we are able to get together data as to the range of *schraderi* they will remain so.

Ialmenus ictinus: *Larva.* Variable in colour, but mostly dark brownish black, sometimes with green laterally. Each segment has two large dorsal tubercles armed with stout black hairs or spines. The spined tubercles and lateral indentations give the larva a rugged, prickly appearance.

Pupa : Pale brown to brownish black. Considerable variation is found in pupal colouring. Usually found scattered in twos and threes about the leaves and twigs of the food–plant, but sometimes when feeding on the larger trees they are apt to pupate in numbers in such shelter as is provided by lower forks or loose bark. Both larvae and pupae are always attended by the common Red Mound-Ant (*Iridomyrmex detectus*).

Food–plants : Wattles of many species, but I have bred it from the small tree *Heterodendron diversifolium.*

Ialmenus schraderi ? ? ? Larva. Green with a broad reddish brown dorsal stripe shading to brown on the edges. Although each segment bears two dorsal tubercles they are so small as to be scarcely noticeable unless specially looked for, whereas in *ictinus* they are a very noticeable and distinctive feature. The tubercles in *schraderi ?* have sometimes a few short hairs, but they are quite without the black hairy spines of *ictinus*—in fact it is necessary to use a lens to see the short hairs on *schaderi ?*

Pupa : Uniform shining black in colour. I have never seen any variation in this colour, whereas *ictinus* pupae vary considerably. The pupa of *schraderi ?* is more elongated, it seems to me, and the abdomen more pointed. Found as a rule in cracks and crevices of the tree—frequently a number together. Unlike *ictinus* they seldom seem to pupate on the twigs and leaves. I have found them in such positions, but they are generally parasitised. Frequently the larvae wander right away from the food–plant if good cover is not available. I have found them in the wire-holes of fence–posts and on a number of occasions I have found little colonies of pupae under the bark of dead trees some feet away from the food–plant.

Food-plant : Brigalow (*Acacia harpophylla*) and once *Heterodendron diversifolium.* The larvae and pupae are always attended by a small reddish ant with black abdomen (*Froggatella kirbyi*) and these ants swarm all over the larvae and pupae.

In conclusion I would like to give a few comparisons: I have never seen either species associated with any other ant than its own particular kind. I have never found the two on the one tree. While *Ialmenus ictinus* is widespread throughout this district and can be found anywhere, *schraderi* is very local in its habits and is found on just the same food-plants year after year. I have found the two species each on small brigalow suckers within ten feet of each other, but each type remained on its own particular bush with its own particular ant.

From the foregoing notes I think it will be generally agreed that these two types must be specifically distinct, although an examination of the imagines only would lead one to think that I am splitting hairs. Surely two insects —apparently outwardly identical in the imago—so different in the larval and pupal stages—must be specifically distinct.

From now (December) until about the end of March, the butterflies of this genus (*Ialmenus*) should be obtainable in numbers in their particular districts. If there are any members who have had any experience of either or both of the butterflies in the field—particularly any notes as to the distribution of *Ialmenus schraderi ? ?*, of which we know nothing—any information would be most welcome.

THE LIFE HISTORY OF THE CUPID BLUE
(Euchrysops cnejus cnidus Waterhouse and Lyell)

By W. D. DICK

Egg: Pearly white, mandarin-shaped, deeply dented on top with a small hole-like depression in the centre of dent. The sides of egg are encrusted with spikes running in ordered rows diagonally across the egg. They (the eggs) are laid singly on the bases of flower buds.

Larva: Very young larva: Head, blackish brown; body, bluish green, back shaped into a sharp ridge, the top of each segment has two whitish points and in between them a deep red brown mark making it like a broken line along the length of the back; a tuft of short stiff hairs on each point; hairs along sides and on front and back ends, also short hairs on the underneath on the fleshy grippers.

Next instar: Head, blackish brown, shiny; body, dark green, back ridge coloured the same as above description, the tufts of hair more pronounced, small black dots along sides, one on each segment, a line of darker green marks along sides just above each dot, each mark lying diagonally across each segment. The larva is a beautiful object to look at. As the larva grows older and bigger the dark green line fades.

Full-grown larva: Head, blackish brown; body, yellow-green, humped, points of each segment having one stiff white hair, line along back reddish-purple, small short hairs all over the body, diagonal line on each segment light green, just discernible, small black dots along full length of sides. Fringe of hairs along sides of body; fringe of longer hairs, look like some shades of brown, on each end of larva.

The larva is attended by a small brown ant, usually one to three. The larvae feed on a pea-like vine, here usually called wild sweet–pea, because the flowers are almost as large as the garden sweet-pea. They prefer the flowers and buds. I collected most of my larval specimens inside the green seed-pods because the flowers had fallen. The flower is a mauve or lavender colour.*

Pupa: Round and hairy. Colour soon after pupation: Head, thorax and wing-cases, are clear green in most darker green in some with black spots over each eye-case; the remainder has scattered black dots and spots all over it. Line of black dots along thoracic ridge continuing full length of abdomen.

Abdomen: Pinkish-white tinged with green, minute black dots all over it, line of black dots along each side corresponding with dots on larva.

As the pupa develops the butterfly inside, the colour changes until it becomes pinkish-cream or white with all the above-described spots and dots upon it. Some pupae have more black dots on them than others. The pupa is fixed with cremaster and central girdles.

The foregoing description was discovered in part about five years ago. At that time only the last instar (full grown) pupa and butterfly were obtained. I found lots of eggs laid upon the host plant and was able to stand and watch the females lay their eggs on the flower-buds. The pressing need to work my farm without any help during the war prevented me from extending my observations. However, this year I was able to

*The food plant appears to be **Vigna vexillata** (L.) Benth. Ed.)

get more time and was able to study the species more fully.

I found the young larvae and put them in a tin, feeding them there until they pupated and the butterfly emerged. If the pupa is kept where there is vibration from continuous walking about, the insect will emerge with deformed and crumpled wings. This also was the case some years ago, when I kept Azure Blue pupae; many of them died and some had crumpled wings.

MR. A. H. CHISHOLM

It is regretted that the name of Alec H. Chisholm was omitted from the paper on the Origin and Early Years of the Queensland Naturalist Club, published in "The Queensland Naturalist" in August, 1946. At the time he was regarded as belonging to the present generation and not, therefore, coming within the scope of the paper. It was overlooked that he joined the Club as early as 1916, and from the onset he gave valuable service. He was President in 1921, and apart from the interesting, original papers he contributed, he was a tower of strength in many ways. Not the least important of the work carried out by Mr. Chisholm was the assistance he rendered to the Authorities in framing legislation designed to protect the animals and birds of the State.

Mr. Chisholm's departure from Brisbane to reside in the South was a distinct loss to the cause of Natural History in Queensland. We all watch with pleasure the continuous stream of books and papers which flows from his pen.

—C. W. Holland.

OBITUARY

Professor H. C. Richards, D.Sc., who died on June 13th, after an illness lasting many months, will be sadly missed not only from local scientific institutions such as this but from much wider spheres of activity, for he was a very energetic man with a great variety of interests. Richards was elected to the Club in 1911 and attended many of its meetings and excursions. Although not so active a member in later years he never lost interest in the Club, and always appreciated the value of its work.

For 36 years he had guided the destinies of the Department of Geology in the University of Queensland, but his interests were not confined to geological, or even to scientific work, although he held many important offices in the principal scientific organisations of Australia.

It is impossible to include a complete list, even of his more important activities, in these notes, but reference should be made to his Chairmanship of the Great Barrier Reef Committee and of the State Committee of the Council for Scientific and Industrial Research.

In spite of his association with so many weighty and important matters, he was always friendly and unaffected. He will be sadly missed by many people in many walks of life.

—W.H.B

QUEENSLAND NATURALISTS CLUB

STATEMENT OF RECEIPTS AND EXPENDITURE FOR YEAR ENDING 31st DECEMBER, 1946

RECEIPTS

	£	s	d	£	s	d
Balance forward from 1945				87	15	2
Subscriptions				64	15	0
Donations					3	6
Sales of "Queensland Naturalist" ...					6	0
Sales of Nature Lovers Certificates					5	0
Surplus from—						
Easter Camp		18	0			
Bus Trip—The Blunder		3	0			
Bus Trip—Mt. Glorious		4	6			
				1	5	6
Interest on Bank Account				1	14	7
				£156	4	9

£40 War Savings Certificate held by George St. Branch Commonwealth Bank. Receipt held by Hon. Secretary, Miss E. E. Baird.

H. CLARKE, Hon. Treasurer.

C. W. HOLLAND, Hon. Auditor.

EXPENDITURE

				£	s	d	£	s	d
Rent Brisbane Women's Club ...							15	0	0
Insurance Bookcase and Library .								2	5
Telephone				9	17	9			
Less Refund by Secretary .				3	13	6			
							6	4	3
Petty Cash							15	0	0
Printing two issues "Queensland Naturalist" (Clark & Mackay)							32	19	1
Library—									
Magazine Subscriptions—									
Barker's	2	6	6						
National Geographic	1	8	2						
				3	14	8			
Clark & Mackay—Stickers for Library Books					11	10			
							4	6	6
Supper Expenses last meeting of year—excess expenses over donations received								10	11
Refund Mr. Lord copies "Queensland Naturalist"							1	0	0
Wreath for late W. Arundell								11	5
Honorarium Hon. Secretary							5	0	0
Balance in Bank							75	10	2
							£156	4	9
War Savings Certificates							£40	0	0
Bank Balance							75	10	2
Total Balance							£115	10	2
which includes Nat. Lovers' League balance							£43	1	2

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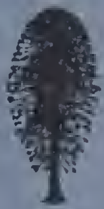
THE QUEENSLAND NATURALIST

JOURNAL OF THE
QUEENSLAND NATURALISTS' CLUB
AND
NATURE-LOVERS' LEAGUE

"The Poetry of Earth is never dead."—KEATS.

The Author of each Article is responsible for the Statements expressed therein:



NATIONAL MUSEUM
22.APR.1948
OF VICTORIA

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The Queensland Naturalists' Club
AND
Nature Lovers' League

Official Journal—The Queensland Naturalist

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Ordinary Members	10s. per annum
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Evening Meetings are held at the Brisbane Women's Club Rooms, 148 Adelaide Street,
on the Third Monday of every Month.
Excursions are held once or twice a month from March to December.

THE
QUEENSLAND NATURALIST

JOURNAL OF THE QUEENSLAND NATURALISTS' CLUB
AND NATURE-LOVERS' LEAGUE

Vol. xiii. MARCH, 1948 No. 5

PROCEEDINGS

EVENING MEETING, 21st July, 1947.—The Chair was occupied by the President, Mr. G. H. Barker, and about 40 members were present. A report on a week-end excursion to Eudlo stated that 12 members had attended and visited a cave previously used by the aborigines; 23 birds and but few orchids were noted. The Saturday afternoon's excursion to the Holland Park district was attended by nine members only. Mr. A. R. Brimblecombe gave an illustrated lecture on the Powder Post Beetle and methods of its control.

MUSEUM 2 APR 1948 VICTORIA

EVENING MEETING, 18th August, 1947. The chair was occupied by the President (Mr. G. H. Barker), and about 44 members were present. Mrs. A. Harrison was elected to membership. The President discussed a report on the condition of the Bora Ring at Nudgee Waterhole, and the Secretary was instructed to suggest to the Lord Mayor that the fence and notice-board should be replaced. Mr. G. Mack gave an account of a trip by specially built caravan to Cooper's Creek to fill in some gaps in the Matthews collection of Australian birds in the American Museum of Natural History. Mr. Dunn tabled some wild flowers from Caloundra; Miss Sandercock exhibited two bird's nests; and a small piece of Australian edelweiss from Mount Hotham was shown.

EVENING MEETING, 15th September, 1947.—The President (Mr. G. H. Barker) occupied the chair and about 55 members were present. A letter received from the City Council was read, in which it was stated that the fence round the Bora Ring at Nudgee Waterhole would be replaced. Dr. and Mrs. I. M. Mackerras were elected members of the Club. Reports on the excursion to "Galen," the experimental farm at Thornlands, were given by Mr. White and Mr. Barker. Reports on the excursion to Sunnybank were given by various members. The evening was devoted chiefly to exhibits of native flowers, obtained from various sources. The exhibits were discussed by Mr. White, Professor Herbert and Mr. Blake.

EVENING MEETING, 20th October, 1947.—The chair was occupied by the President, Mr. G. H. Barker, and about 70 members and visitors were present. A motion of condolence with Miss Hawken and her family was taken. The President extended a hearty welcome to members of the Royal Australian Ornithologists' Union. The excursion to the Beerwah Forestry Station was reported on by Dr. Young. Mr. C. Bryant gave a lecture on "Getting the Bird." Dr. Young tabled a set of photographs of the Beerwah outing and flowers of *Leptospermum lambertii.*

EVENING MEETING, 17th November, 1947.—The chair was occupied by the President, Mr. G. H. Barker, and about 50 members were present. Mr. Anderson, of Point Lookout, was elected a country member. Members reported on the excursion to Camp Mountain. A presentation of a cake and a ten-pound note was made to Miss Baird in recognition of her 21 years' service as Honorary Secretary. Two books were presented to the library—E. B. Ford's "Butterflies" was given by Miss Marks, and J. J. Audubon's "Birds of America" by Mr. Barker. The evening was devoted to exhibits, of which a wide variety was provided by several members.

AVIFAUNA OF THE ESK—SOMERSET DAM DISTRICT

By KEN S. HARLEY

During the Club's stay at Somerset Dam from 4th April, 1947, to 7th April, 1947, a list of 53 species of birds was compiled. This was rather poor, owing, I think, to the fact that most of the time was spent along the shore of the lake and up on the mountains. The area most frequented by birds seemed to be the river banks below the Dam. The surface of the lake was practically devoid of birds. The rain just before Easter would be responsible for this, as I understand it is usual for birds to leave the lake after heavy rain. The birds leave the dirty, running water in favour of flooded paddocks, etc., for fresh herbage, or leave the district. The Maned Goose generally keeps to the margins of swamps, etc., and the drier sections of paddocks; it does not seem to take to the water as the ducks do. The water was pouring over the Dam for the duration of our visit.

The smaller cormorants, generally single birds, often remain at the small cattle dams for several days, apparently until the dam is "fished out."

In order to make this list more representative, I have included species noted by Mr. A. Love while he was resident at Esk from May, 1945, to March, 1947. I take this opportunity to thank Mr. Love for the assistance he rendered during the compilation of these notes.

Species marked "not positively identified" are reasonably certain, but should not be considered positive records.

(By error, the specific names were set with an initial capital throughout, and it was not possible to correct this without resetting the list. The names shou'd read **Synoicus australis, Macropygia phasianella,** etc.—Ed.)

Synoicus Australis.—Brown Quail.
Macropygia Phasianella.—Brown Pigeon.
Geopelia Placida.—Peaceful Dove. Common.
Geopelia Humeralis.—Bar-shouldered Dove. Common in semi-scrub left after clearing.
Chalcophaps Chrysochlora.—Green-winged Pigeon.
Phaps Chalcoptera.—Common Bronzewing.
Geophaps Scripta.—Squatter-pigeon. Fairly rare, only seen once.
Ocyphaps Lophotes.—Crested Pigeon. Common. Locally known as Top-Knot.
Leucosarcia Melanoleuca.—Wonga Pigeon.
Porzana Pusilla.—Marsh-crake. This species not positively identified.
Gallinule Tenebrosa.—Dusky Moorhen.
Porphyrio Melanotus.—Eastern Swamphen.
Fulica Atra.—Coot.
Podiceps Ruficollis.—Little Grebe.
Phalacrocorax Carbo.—Black Cormorant. Only occasional. Seem to be strays.
Phalacrocorax Ater.—Little Black Cormorant. Common.
Phalacrocorax Varius.—Pied Cormorant. Only occasional. Seem to be strays.
Microcarbo Melanoleucus.—Little Pied Cormorant. Common.

Anhinga Novae-Hollandiae.—Australian Darter.

Pelecanus Conspicillatus.—Australian Pelican. Common on dam and large waters.

Erythrogonys Cinctus.—Red-kneed Dotterel.

Lobibyx Novae-Hollandiae.—Australian Spur-winged Plover. Reasonably common. Nests in district.

Zonifer Tricolor.—Banded Plover. Small flock seen on two occasions in Mt. Tarampa area.

Charadrius Melanops.—Black-fronted Dotterel.

Himantopus Leucocephalus.—White-headed Stilt.

Gallinago.—Snipe. Species not determined. Number seen in flooded paddocks and semi-swamp.

Threskiornis Molucca.—Australian White Ibis. Not particularly common.

Threskiornis Spinicollis.—Straw-necked Ibis. Fearless in following plough.

Platalea Regia.—Royal Spoonbill. Fairly rare; only seen once.

Notophoyx Novae-Hollandiae.—White-faced Heron. Fairly common on Stanley River. During Easter 1947 one pair had a nest about 100 ft. up in a gum tree on the river bank.

Notophoyx Pacifica.—White-necked Heron. Not particularly common.

Chenonetta Jubata.—Maned Goose. Generally in flocks. On approach of anything, provided it does not come too close, the whole flock walks away and does not take flight immediately. Frequents paddocks after rain. Locally known as wood-duck.

Chenopis Atrata.—Black swan. Common on dam and large waters.

Anas Superciliosa.—Grey (Black) Duck. Common.

Uroaetus Audax—Wedge-tailed Eagle.

Haliastur Sphenurus.—Whistling Eagle.

Elanus Axillaris.—Australian black-shouldered Kite.

Haliastur Sphenurus.—Nankeen Kestrel.

Ninox Boobook.—Boobook Owl. Heard only. Never seen.

Trichoglossus Chlorolepidotus.—Scaly-breasted Lorikeet. Very common.

Leptolophus Hollandicus.—Cockatiel. Common.

Platycercus Adscitus.—Pale-headed Rosella.

Podargus Strigoides.—Tawny Frogmouth.

Eurystomus Orientalis.—Dollar Bird

Alcyone Azurea.—Azure Kingfisher.

Dacelo Gigas.—Laughing Kookaburra.

Halcyon Macleayi.—Forest Kingfisher.

Halcyon Sanctus.—Sacred Kingfisher.

Merops Ornatus.—Rainbow-bird. Flocks observed during Easter.

Centropus Phasianinus.—Pheasant-coucal. Called frequently during Easter. Common at dam and along watercourses where suitable cover exists.

Hirundo Neoxena.—Welcome swallow. Nests under road culverts.

Hylochelidon Ariel.—Fairy Martin. Nests under road culverts.

Rhipidura Flabellifera.—Grey Fantail.

Rhipidura Rufifrons.—Rufous Fantail.

Rhipidura Leucophrys.—Willie Wagtail.

Seisura Inquieta.—Restless Flycatcher.

Monarcha Trivirgata.—Spectacled Flycatcher.
Eopsaltria Chrysorrhoa.—Northern Yellow Robin.
Pachycephala Pectoralis.—Golden Whistler.
Pachycephala Rufiventris.—Rufous Whistler.
Colluricincla Harmonica.—Grey Shrike-thrush.
Grallina Cyanoleuca.—Peewee. During summer, at dusk, flocks of about 50 birds seen at times.
Psophodes Olivaceus.—Eastern Whipbird
Coracina Novae-Hollandiae.—Black-faced Cuckoo-shrike.
Sphecotheres Vieilloti.—Southern Figbird.
Pomatostomus Temporalis.—Grey-crowned Babbler.
Gerygone Olivacea.—White-throated Warbler. Heard only. Never seen.
Acanthiza Chrysorrhoa.—Yellow-tailed Thornbill
Sericornis Frontalis.—White-browed Scrub-wren.
Malurus Lamberti.—Variegated Wren.
Malurus Melanocephalus.—Red-backed Wren.
Artamus Cyanopterus.—Dusky Wood-swallow. Common.
Climacteris Picumnus.—Brown Tree-creeper.
Dicaeum Hirundinaceum.—Mistletoe-bird.
Pardalotus Melanocephalus.—Black headed Pardalote. Fairly common.
Melithreptus Lunatus.—White-naped Honeyeater.
Myzomela Sanguinolenta.—Scarlet Honeyeater.
Acanthorhynchus Tenuirostris.—Eastern Spinebill.
Gliciphila Indistincta.—Brown Honeyeater.
Meliphaga Lewini.—Lewin Honeyeater.
Meliornis Novae-Hollandiae.—Yellow-winged Honeyeater.
Myzantha Melanocephala.—Noisy Miner.
Entomyzon Cyanotis.—Blue-faced Honeyeater. Present in pair and parties. Mr. Love noted a bird of this species trying to break into a domed nest, possibly belonging to the Yellow-tailed Thornbill.
Philemon Corniculatus.—Noisy Friar-bird.
Philemon Citreogularis.—Little Friar-bird. This species not positively identified.
Anthus Australis.—Australian Pipit. Very common in grasslands.
Zonaeginthus Bellus.—Beautiful Firetail.
Taeniopygia Castanotis.—Zebra Finch.
Steganopleura Bichenovii.—Banded Finch.
Aegintha Temporalis.—Red-browed Finch.
Ptilonorhynchus Violaceus.—Satin Bower-bird.
Corvus Cecilae.—Australian Crow.
Corcorax Melanorhamphus.—White-winged Chough. Parties of 10 to 20 in open forest country.
Strepera Graculina.—Pied Currawong. Common.
Cracticus Nigrogularis.—Pied Butcher-bird.
Cracticus Torquatus.—Grey Butcher-bird.
Gymnorhina Tibicen.—Black-backed Magpie. Very Common.

— INTRODUCED SPECIES —

Sturnus Vulgaris.—Starling. Very common in cattle country. Flocks of 50 and over observed.
Passer Domesticus.—House-sparrow. Common round Esk.

FISH AT SOMERSET DAM — STANLEY RIVER

DOROTHEA F. SANDARS

Immediately below the wall of Somerset Dam, on the downstream side, is a confined area known as the spillway, and below this again is another confined area known as the dissipator. During the year, and especially after rainy periods, abundance of fish of several types may be observed in these two areas. These fish have undoubtedly been attracted upstream by the taste of the "fresh." When the water overflows the dam wall, quantities of planktonic life, which forms the food of many fish, is carried downstream, and it is this phenomenon which is commonly referred to as a "fresh."

One of the commonest fish seen in the dissipator of Somerset Dam during many months of the year is the Bony Bream—*Nematolosa come*. This fish is usually seen in large shoals and the fish themselves may range from approximately 1½ inches to 12 inches in length. On occasions, the typical "silvery" appearance of these fish appears to be marred, and on close observation this will be seen to be due to the presence of freshwater fungus. At least one type has been identified—*Isoachlya unispora* (kindly identified by Associate-Professor D. A. Herbert); but it is thought possible that other genera may be present in this locality.

It is interesting to note that a great percentage of the fish caught is usually injured, frequently on their sides towards the caudal (or tail) fin. These wounds are acquired during the attempt by the fish to scale the concrete wall separating the dissipator from the spillway. These wounds, no doubt, are the seat for infection by the fungus.

These Bony Bream, in common with most other fish, harbour ectoparasitic flatworms (Trematoda-Monogena) on their gills. These flatworms are attached by efficient adhesive structures, which take the form of special suckers on the posterior end of the body. By this means of attachment the worms cling to the gill-filaments of the fish host. The body of these gill-worms is usually very similar in shape to that of the gill-filaments themselves, and so, lying parallel to the latter, they are usually difficult to determine. The gill-worms present on *Nematolosa come* range in length between two and three mms.

Various other types of fish may be seen in the Somerset Dam region, the most common perhaps being the freshwater catfish—*Tandanus tandanus*—often referred to in Queensland as the Jew-fish (or Dew-fish or Dhu-fish). The term Jew-fish would perhaps be better kept to refer to the marine fish (*Sciaena antartica*), commonly called such in other parts of Australia. The Perch or Spotted Grunter—*Therapon unicolor*—is also quite abundant. At certain times of the year the dissipator has been observed to contain a seething mass of eels—*Anguilla australis*. The Lungfish—*Neoceratodus forsteri*—has also been observed at night-time, but not very frequently.

Among the smaller fish observed from the area, most outstanding perhaps are the Jewel-fish—*Melanotaenia nigrans*—a very pretty little fish of length about 5–8 cms., with bright reddish laterally-situated spots, and the Black-tipped Perchlet—*Priopis nigripennis*—which is quite typically marked.

On occasions the fish generally, and in particular the Bony Bream, have been recorded dead in great quantities in the dam—a phenomenon not uncommon in many parts of Queensland, occurring in dams and freshwater pools, etc. From previous records and present observations, it would seem that this occurrence takes place mainly during the years when dry conditions and drought prevail.

Examination of some of the dead fish indicates that the problem is not one of general fish-food shortage, and most of the commonly postulated theories, on investigation, prove finally to be untenable. This problem is one that has remained unsolved over a great many years, and is perhaps the outcome of a great many inter-dependent factors which serve to complicate investigational work.

It is suggested by the author that perhaps the key to the whole problem lies in the variation of the oxygen content of the water. A theory postulated is that the fish being well fed, with decreased oxygen available, become increasingly sluggish, and as a result the fat, commonly found in the body of the affected fish, is deposited. With the continuation of drought conditions, the oxygen content of the water continues to decrease, until a point is finally reached at which the fish die. Other chemical factors, present in certain regions, probably also complicate the problem still further.

It is suggested that the whole problem may be regarded as unavoidable, being possibly a method whereby is maintained in one phase of life, the "Balance of Nature."

NOTE ON THE GEOLOGY OF SOMERSET DAM

By DOROTHY HILL

Three of the most remarkable structural units of south-eastern Queensland are the D'Aguilar block of highlands, the Yarraman block of highlands and the intervening Brisbane Valley; and the geology of Somerset Dam will be considered in relation to them (see Map).

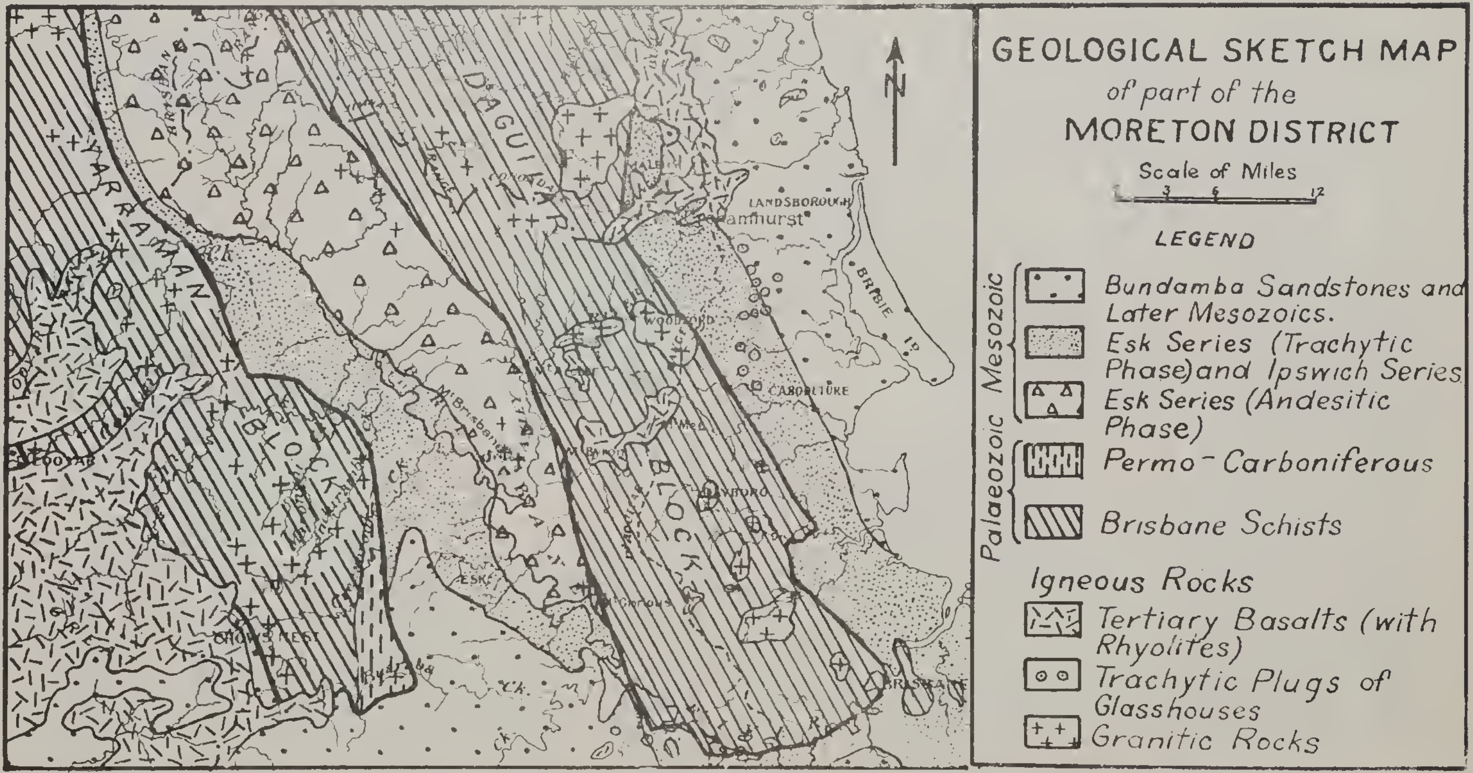
In the Brisbane Valley we find outcropping to-day relatively soft, Mesozoic rocks laid down in fresh water or under subaerial conditions, while in the higher blocks on either side there are instead much harder and older rocks capped by younger lava flows. These older rocks were laid down originally as sediments in the early Palaeozoic seas which then covered the eastern margin of the present Australia—some three to five hundred million years ago. They are a very thick series known as the Brisbane Schists, which during the passage of time have been hardened by pressure and folded and broken by earth movements. In late Palaeozoic times they were penetrated from below by magmas—very hot pasty liquids—which baked them, engulfing large segments, and which on cooling solidified into great areas of granites. During the 150,000,000 years of erosion since these granitic instrusions, the granites have been laid bare in an eastern and a western belt; in the eastern, in the D'Aguilar block, we see them at Mt. Crosby, Enoggera, Samford, Dayboro and many other places further north; in the western belt, in the Yarraman block, we see them at Eskdale, Crow's Nest, Anduramba, and Nanango.

We may perhaps conjecture that it was this stiffening in two separated belts that led to the formation of the three structural units of our first paragraph. In the crustal adjustments following the intrusions, the two stiffened regions seem to have acted as units whose movement was upward relative to the intervening narrow Brisbane Valley strip.

The adjustment almost certainly involved crustal fracture, at least along the western and southern margins of the D'Aguilar block, which are linear and angular. It affected the Permo-Carboniferous marine sediments of south-eastern Queensland, for we know of two small patches caught up along the western margin of the D'Aguilar block, one at Northbrook, another now partly inundated by the dam on the east bank of the Stanley River near Wyangy Creek. It saw S.E. Queensland finally emerge from the sea, never to be inundated again.

Probably it occurred at the beginning of Triassic times; for in Triassic times coarse sediments like those deposited by young streams in low land at the foot of steep hills covered the Brisbane Valley floor and mantled the southern margin of the D'Aguilar block; it is suggested that the steep scarps were fault scarps formed during this late Palaeozoic or early Mesozoic crustal adjustment. Some of these sediments show evidence of being laid in water, most likely in lakes dammed up by volcanic action or changes in the drainage by earth movement, others could be sub-aerial pediments. They are conglomerates, sandstones and shales associated with volcanics.

The most remarkable feature of this Triassic sedimentation was the great volcanic episode responsible for the rocks on which the dam wall is based. All along the western margin of the D'Aguilar block, from Northbrook to Kilkivan, there was poured out (it seems from vents arranged parallel to or perhaps coincident with this faulted margin) a great thickness of fragmental volcanic matter, mostly of intermediate chemical type, andesitic but in part trachytic. It consisted of large angular or rounded pieces of porphyritic andesite mixed in greater or lesser proportion with fine and coarse ash, and poured out over the floor of the valley, possibly in places as incandescent streams, or elsewhere, moving down the valley as great mud flows or lahars. The dam wall is based on just such rocks, but which have had a subsequent toughening by igneous action, as will be seen below. In



GEOLOGICAL SKETCH MAP
of part of the
MORETON DISTRICT

the intervals of volcanic eruption ordinary terrestrial sediments (conglomerates, sandstones and shales) were deposited in the valley and the whole, pyroclastics and sediments formed the lower or andesitic phase of the Esk Series. Fossil plants, chiefly cycadophytes, are found in some of its tuffs and shales.

This dominantly andesitic phase was quickly followed by a trachytic phase with trachyte tuffs and lavas intercalated with ordinary terrestrial sediments, forming the upper Esk Series. Rich fossil floras are found in some of the tuffs and shales, chiefly cycadophytes, but also ferns, seed-bearing ferns, equisetalians and conifers, some with their cuticles still preserved in a carbonaceous film.

Then, still in Triassic times, an earth movement occurred, which was followed by that even type of sedimentation which formed the Bundamba sandstone type which spread far afield, even westwards into the Great Artesian Basin. To-day, it is found in the Brisbane Valley only to the south of Esk.

22 APR 1948

Possibly related to this earth movement, or perhaps later than it, there were injected into these Mesozoic sediments of the Brisbane Valley particularly in the Mt. Brisbane-Somerset Dam area, a series of magmas which because of their heat and their reactive emanations, caused the andesitic agglomerate at the dam site to be metamorphosed into the extremely tough porphyry which is so admirable a foundation for the wall. Where this metamorphism could not act, the andesitic agglomerates weather down very quickly into a friable mass.

The petrology of the dam site is extremely interesting and has been studied by C. W. Ball (1940, Proc. Roy. Soc. Queens. 52, p. 2[illegible]). The first magma to rise up into the lower Esk Series was injected in two successive stages, and solidified as augite diorite. It was followed by an acid magma which solidified into alaskite (micrographically intergrown quartz and felspar) and gave off laccoliths and dykes of quartz felsite. Late magmatic quartz-felspar-tourmaline veins are found cutting all of these. In the quarries and cuttings round the township of Somerset, most instructive studies can be made of the metamorphism or metasomatism of the older rocks of each successive intrusive body.

Rising through or in the Mesozoic rocks of the Valley are acid volcanic masses like Mt. Esk, Glen Rock, etc., and these are generally considered part of the Tertiary volcanic series of S.E. Queensland, though it has never been proved that they are not part of the acid phase of extrusives in the Esk Series. Horizontal lavas, rhyolites and basalts, capping the D'Aguilar and Yarraman blocks, e.g., at Mt. Archer, and falling eastwards from the Bunya Mts., are also usually considered Tertiary, though no interbedded or overlying fossiliferous shales or tuffs have yet been found.

THE VEGETATION OF THE COUNTRY SURROUNDING SOMERSET DAM

(The Botanical Report of the Easter Excursion, 1946)

By S. T. BLAKE

The Somerset Dam is situated on the Stanley River, about 12 miles from Esk towards Kilcoy. The country immediately adjacent to the dam is now chiefly valleys and steep, sometimes rugged, mountains, with the altitude varying from 200 to over 2,000 feet. Originally there was a broad valley with some low hills upstream from the dam, but this is now flooded. A considerable part of the Stanley River basin was studied in 1939, prior to the flooding, and a more detailed account of the vegetation is to be found in Proc. Roy. Soc. Queensl. 52: 62-77 (1941). As a result of further investigation, some of the names used in this paper require emendation; further species have been recorded from the area, a list of which is at the end of the present paper.

The area recently visited was limited to the banks of the Stanley River close to the dam, and parts of the mountains on each side. Along the river below the dam there still remains the original Fringing Forest of *Callistemon viminalis* (red bottle-brush), *Eugenia ventenatii* (river myrtle), *Castanospermum australe* (Moreton Bay chestnut or black bean), *Casuarina cunninghamiana* (river oak) and *Tristania laurina* (a water gum); there is a ground flora of several grass-like plants, including *Lomandra longifolia* (sword grass), *Microlaena stipoides* (weeping rice grass), *Paspalidium distans*, more or less

Digitaria didactyla (blue couch), *Cyperus gracilis*, *C. enervis*, *C. mirus*, some *Ottochloa gracillima*, *Commelina cyanea* (wandering jew, scurvy grass), and other herbaceous plants, including *Salvia coccinea* and *Urtica incisa* (native nettle).

Between the river bank and the hills is a broad alluvial flat with a grassy open forest of *Eucalytus tereticornis* (blue gum; recorded in the former paper as *E. umbellata*) and *Angophora subvelutina* (apple). *Tristania suaveolens* (swamp mahogany) is sometimes common near depressions. The trees have been partly removed from these flats. The chief grasses are *Paspalum dilatatum* (paspalum) and *Bothriochloa decipiens* (pitted blue grass), but a number of other plants occur, though not abundantly.

Eucalyptus forest, with a good ground-cover of grasses, occupies the greater part of the area. A mixed eucalypt forest was the most widely spread, particularly on slopes of medium steepness with podzolised soil, but has undergone considerable clearing. The chief trees are *Eucalyptus crebra* (narrow-leaved iron-bark; recorded in the earlier paper as *E. racemosa*), *E. decepta* (grey iron-bark), *E. melanophloia* (silver-leaved iron-bark), *E. tessellaris* (Moreton Bay ash), *E. gummifera* (or perhaps *E. intermedia*; bloodwood), and occasionally the small trees *Alphitonia excelsa* (red ash) and *Exocarpus cupressiformis* (native cherry; a root-parasite). *Lantana camara* is occasional. The ground-cover is rich, about 65 species having been recorded: the most abundant are *Bothriochloa decipiens*, *Aristida ramosa*, *Eragrostis leptostachya* (meadow love-grass), *Digitaria didactyla* (blue couch), *Desmodium varians* (tick trefoil), *Glycine tabacina* (glycine pea), *Zornia diphylla*, *Glossogyne tenuifolia*, and *Helichrysum apiculatum*. On the higher steep slopes this forest gives way to one dominated by *Eucalyptus crebra*, *Casuarina torulosa* (forest oak), and *Xanthorrhoea arborea* (grass-tree). The ground-cover is dense, but poor in species, composed chiefly of *Themeda australis* (kangaroo grass) and *Poa australis*. On the highest part of the range to the west of the dam is a rather different tall forest of *Eucalyptus triantha* (white stringy-bark; miscalled in the earlier paper *E. carnea*) and a grey-gum, probably *E. punctata*. Here, at an altitude of 1,400-2,000 feet, there is a light-coloured, light-textured, rather shallow, almost skeletal soil developed on alaskite, boulders of which are scattered here and there over the surface. The trees are large and form a relatively dense canopy; *Casuarina torulosa* occurs scattered as an understory tree. There is a well-developed underwood, nowhere really dense, of a number of shrubs and seedling trees, of which the most prominent are *Acrotriche aggregata* and *Oxylobium trilobatum* (with spiny leaves), *Monotoca scoparia*, *Persoonia Mitchellii* (a geebung), *Indigofera australis* (a native indigo), *Tephrosia purpurea* and *Hovea acutifolia* (hovea). There is a rich and varied ground flora, of which the commonest members are the grasses (2–3 feet high), *Themeda australis*, *Poa australis*, *Cymbopogon refractus* (barb-wire grass), *Digitaria* sp., and *Microlaena stipoides*; also *Lepidosperma laterale*, *Didiscus incisus*, *Goodenia rotundifolia*, *Desmodium rhytidophyllum*, *D. brachypodum*, *Helichrysum bracteatum* (yellow everlasting), *Dianella coerulea* (blue-berry lily). Twining plants present are *Glycine clandestina*, *Hardenbergia violacea* (*H. bimaculata*, *H. monophylla*; sarsaparilla), *Kennedya rubicunda*, *Cissus opacus* (a native grape), and *Eustrephus latifolius* var. *angustifolius*. At its lower edge this forest touches on rain-forest with an ecotone in which *Tristania conferta* (scrub box), *Brachychiton bidwillii*, *Gymnostachys anceps* and *Carex declinata* are noticeable. On very rocky places on the hillsides are to be found a number of herbaceous plants more or less restricted to these places. The ferns *Drynaria rigidula* and *Notholaena distans* and the labiate *Plectranthus australis* are specially characteristic, and the orchid *Dendrobium kingianum* is usually to be found on rock faces. Some other noteworthy plants of these rocky places are *Crassula sieberiana*, the ferns *Davallia pyxidata* (hare's-foot fern), *Adiantum hispidulum*, *Doodia heterophylla* (rasp fern), and *Pyrrhosia rupestris*, *Dendrobium linguiforme* (tongue orchid), etc.

Closed forest occurs in some places on the hillsides, frequently in gullies. Sometimes it is very close to true rain-forest in character, but epiphytes are relatively scarce and the lawyer vine (*Calamus muelleri*) is but rarely seen. Also the hoop pine (*Araucaria cunninghamii*) is common to abundant in places—much more common than in characteristic rain-forest, and is always the tallest tree. Smaller trees include *Acacia aulacocarpa* (hickory wattle), *Alectryon connatus*, *Bridelia faginea*, *Erythrina vespertilio* (bat's–wing coral tree), *Euroschinus falcatus* (ribbonwood), *Ficus eugenioides* (small-leaved fig), *Flindersia australis* (crow's ash), *F. collina*, *Harpullia pendula* (tulip wood), *Laportea photinophylla* (shining-leaved stinging-tree), *Mallotus philippinensis*, *Rhodosphaera rhodanthema* (deep yellow wood), *Syncarpia subargentea*, and the rather rare *Hernandia bivalvis*. Among the more frequently occurring shrubs are *Acalypha nemorum*, *Alchornia aquifolia*, *Canthium lucidum*, and *Capparis nobilis*. Among the lianas *Cissus antarcticus* (a native grape), *Jasminum didymum* (a native jasmine), *Lonchocarpus blackii*, *Pandorea pandorana* (wonga wonga vine), *Rhipogonum* sp., and *Tetrastigma nitens* (a native grape) are particularly noticeable, the last-mentioned species notable for its long fine aerial roots. *Lantana camara* (lantana) is abundant along the margin and wherever disturbance has taken place. The chief epiphytic plants are *Dendrobium speciosum* (king orchid), *D. teretifolium* (pencil orchid), and *Platycerium grande* (staghorn fern). On the forest floor are a few perennial herbaceous species, including *Aneilema biflorum*, *Oplismenus imbecillis*, *Pellaea paradoxa*, *Pyrrhosia rupestris* (a fern creeping on rocks or trees), *Rivina laevis* (introduced), and the somewhat shrubby *Nyssanthes diffusa*.

At the edge of the larger areas of closed forest, between them and the adjacent open forest, there is usually a well–marked ecotone. The ecotone is formed partly of trees from the closed forest and partly of species more or less restricted to these intermediate zones. Some of the small trees are *Acacia irrorata*, *Duboisia myoporoides* and *Hibiscus heterophyllus*, the smaller shrubs *Cassia retusa*, *Abutilon aculatum*, *Brachychiton bidwillii*, *Myrtus rhytispermus* and *Plumbago zeylanica*, the shrubby grass *Stipa ramosissima*, the stemless *Macrozamia spiralis*, the liana *Smilax australis*, the herbaceous *Sigesbeckia orientalis* (farmer's flea, farmer's lice), the grass-like *Aristida gracilipes*, *Carex declinata*, *Cyperus enervis*, *C. laevis*, *Chloris unispicea* and *Gymnostachys anceps*, and the rasp fern, *Doodia aspera*.

Besides the larger areas of closed forest (pine scrub), there also occur small patches of closed forest dotted about the hillsides, commonly on rocky places. The trees and shrubs are usually species found in the pine scrubs, except that *Araucaria*, *Harpullia*, *Flindersia*, *Syncarpia*, *Hernandia*, and some others rarely, if ever, occur. Lianas are relatively numerous, but epiphytes are restricted to mosses and lichens. The more or less shrubby grass *Ancistrachne uncinulata* is a characteristic species, as are *Stipa ramosissima* and the slender *Leptochloa debilis*.

When closed forest is destroyed, the area is soon occupied by a dense growth of lantana (*Lantana camara*); associated are *Tagetes minuta* (stinking roger) and *Verbesina encelioides* (wild sunflower); through this often almost impenetrable tangle may appear some pioneer species of the closed forest, such as *Codonocarpus australis* (bell-fruit tree), *Pipturus argenteus*, *Capparis nobilis* (native pomegranate), and *Alyxia ruscifolia* (chain-fruit).

Chloris virgata (feather-top) was a very abundant roadside weed.

NEW RECORDS.

The following species, not listed in 1939, were recorded in 1947, and the same notation is used as in the earlier paper. An explanation of the abbreviations is as follows: MM (mega- and mesophanerophytes), woody plants more than 8 metres high; M (microphanerophytes), woody plants 2-8 metres high; N (nanophanerophytes), woody plants 25 centimetres to 2 metres high; Ch (chamaephytes), chiefly under-shrubs up to 25 centimetres high; H (hemicryptophytes), plants with perennating buds buried in the surface layers of the soil; G (geophytes), plants with perennating buds buried deep in the soil, such as bulbous and rhizomatous plants; HH (helophytes), plants growing in water; Th (therophytes), annual plants; E (epiphytes), plants growing on other plants or on rocks; S, succulents; CF, closed forest; F, fringing forest; 1, mixed open forest; 2, blue gum-apple forest; 7, stringybark-grey gum forest; 9, very rocky places on hillsides in Eucalyptus forest.

Species	Life-form ..	Occurrence
Pteridophyta		
Marsilea Brownii A. Br.	G	2
Lauraceae		
Cryptocarya triplinervis R.Br.	MM	F
Cassytha filiformis L.		Leafless twiner parasitic on **Lantana** and **Cudrania**

Cruciferae		
Lepidium virginicum L.	Th	F-2
Crassulaceae		
Crassula sieberiana (Schult.) Ostenf.	S	9
Portulacaceae		
Calandrinia pusilla Lindl.	S	9
Polygonaceae		
Polygonum prostratum R.Br.	Th	F-2
Amaranthaceae		
Amaranthus viridis L.	Th	2
Gomphrena celosioides Mart.	H	2
Cucurbitaceae		
Mukia scabrella (L.) Arn.	Th (twiner)	roadside weed
Myrtaceae		
Eucalyptus triantha Link	MM	7
Tristania laurina (Sm.) R.Br.	M-MM	F
Eugenia australis Wendl.	MM	F
Mimosaceae		
Acacia irrorata Sieb.	M	ecotone, referred to **A. decurrens** previously
Papilionaceae		
Vigna luteola (Jacq.) Benth.	Th ? (twiner)	1-2 (roadside)
Moraceae		
Ficus opposita Miq.	M	CF
Urticaceae		
Urtica incisa Poir.	Th ?	F
Umbelliferae		
Hydrocotyle laxiflora DC.	H	2
Araliaceae		
Polyscias Murrayi (F. Muell.) Harms	MM	CF; one young plant seen
Apocynaceae		
Parsonsia rotata Maid. & Betche	M (liana)	CF
Asclepiadaceae		
Asclepias curassavica L.	Th-H	2
Asclepias physocarpa (E. Mey.) Schltr.	Th	2
Compositae		
Sigesbeckia orientalis L.	Th	1, 2 6 7 8
Spilanthes grandiflora Turcz.	H	1
Tagetes minuta L.	Th	1, cleared CF
Verbesina encelioides Benth. & Hook. ex A. Gray	Th	cleared CF
Xanthium pungens Wallr.	Th	2
Convolvulaceae		
Polymeria calycina R.Br.	Ch twiner	1
Bignoniaceae		
Pandorea jasminoides (Lindl.) v. St.	MM liana	CF

Verbenaceae		
Callicarpa pedunculata R.Br.	N	CF
Labiatae		
Salvia coccinea L.	Th	F
Commelinaceae		
Commelina cyanea R.Br.	H, creeping	F, 2
Orchidaceae		
Pterostylis longifolia R.Br.	G	7
Cyperaceae		
Cyperus laevis R.Br.	H	1-2
Cyperus leiocaulon Benth.	H	2, 9
Cyperus retzii Nees	G	2
Gramineae		
Brachiaria whitei (Domin) C. E. Hubbard	Th	1-2
Chloris virgata Sw.	Th	roadside weed
Digitaria adscendens (H.B.K.) Henr.	Th	F
Echinochloa crus-pavonis (H.B.K.) Schult.	Th	F, 2
Echinopogon nutans C. E. Hubbard	H	1, 2
Eleusine indica (L.) Gaertn.	Th	2
Leptochloa debilis Stapf ex C. E. Hubbard	H	CF
Perotis rara R.Br.	Th	2, chiefly edges of small banks
Ottochloa gracillima C. E. Hubbard	H	F
Vetiveria filipes (Benth.) C. E. Hubbard	H	2-F

THE AUSTRALIAN ABORIGINAL AS A COLLECTOR OF FOSSILS

By Dr. F. W. WHITEHOUSE
(Dept. of Geology, University of Queensland).

The Australian aboriginal, like most nomads, is not a great collector of bric-a-brac, and I do not know of any record, in literature, that he was particularly interested in carrying around fossil plants or animals purely for their curio value. That only rarely did he do so is fortunate indeed; for otherwise great confusion could have arisen in our records by the garnering of collections of mixed materials from aboriginal haunts.

Exceptional instances do occur where he has retained a fossil for some special purpose. I have drawn attention* to the curious history of the holotype of the Cambrian trilobite *Lyriaspis alroiensis* (Eth. fil.), a beautiful and complete fossil preserved in a fine, flinty chert that was chipped to an artifact and carried away from its original finding place in the Northern Territory. Recently also, in the far west of Queensland, an Ordovician Cephalopod (*Calhounoceras* sp. nov.) was brought to me by an aboriginal who found it on the surface of a Cambrian limestone some miles removed from the nearest Ordovician locality that could yield such a form. This is in the territory of the still active Toko Tribe of aborigines. Here again there seemed to be a reason; for the specimen was a large, regularly corrugated, rod-like form of very striking aspect that easily might have some special ceremonial significance. But in each of these instances the fossil was found not many miles (ten at the most) from a likely collecting ground.

A quite different record recently has come to light. About 11 miles north-east of the township of Condamine, beside the river of the same name, lies the Nangram Lagoon. This is a fine sheet of water, overgrown with the large red water lily, *Nelumbium speciosum* Willd. This is the only known locality south of the tropic where this "Chinese lotus lily," an appetising delicacy for the black men, occurs. Apparently for generations this lagoon was a gathering place of the aboriginals when the seeds of the lily were right for eating; and old residents of the district have stated that in the early days the blacks would gather there in numbers, feasting on the lilies, and then suddenly depart to the bunya-nut feasting ground of the Bunya Mountains. As evidence of its popularity, the shores of the lagoon are littered with artifacts, and there is a bora ring beside it.

Mr. J. A. Clift, of Olive Vale, on whose property the lagoon occurs, was gathering these artifacts recently, and with them he picked up two fossils—a fragment containing portion of a *Spirifer* and some crinoid ossicles (both of Permian type) and a worn fragment containing an ammonite (*Myloceras* sp.) and *Aucellina gryphaeoides* (J. de C. Sow.) (fossils of the Tambo Series, the Albian Stage at the top of the Lower Cretaceous). Now the rocks of the Nangram area are shales of the Blythesdale Series (basal Cretaceous), rich in fossil plants. The nearest outcrop of fossiliferous Permian is at Cracow—some 130 miles distant to the north; while the nearest exposure of the Tambo Series is near Tambo itself—280 miles away to the north-west. Both specimens were poor, insignificant things; and yet they seem to have been carried for long distances, and the inference is that they were carried by the black men.

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*F. W. Whitehouse (1939). "The Cambrian Faunas of North-Eastern Australia. Part 3." Mem. Queensl. Mus. (XI. 3), p. 204.

I am grateful to Mr. J. M. Clift, who drew my attention to these fossils; and to his brother, Mr. J. A. Clift, who showed me the occurrences at the lagoon. The purpose of this note is to invite comments from others who have records of similar collecting habits by the black men, or who may have seen references to these habits in literature that I have missed.

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AND
NATURE-LOVERS' LEAGUE

"The Poetry of Earth is never dead."—KEATS.

The Author of each Article is responsible for the Statements expressed therein:

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The Queensland Naturalists' Club
AND
Nature Lovers' League

Official Journal—The Queensland Naturalist

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MEETINGS:

Evening Meetings are held at the Brisbane Women's Club Rooms, 148 Adelaide Street, on the Third Monday of every Month.

Excursions are held once or twice a month from March to December.

THE

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AND NATURE-LOVERS' LEAGUE

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PROCEEDINGS

ANNUAL MEETING, 16th February, 1948.—The President, Mr. G. H. Barker, occupied the chair and about 45 members and friends were present. Mr. and Mrs. Lockhart Pope and Mr. Lionel Simpson were elected members of the Club. Mr. Barker reported on a visit to the Nudgee Bora Ring by some members of the club. Mr. Ken Harley reported on birds seen at Cribb Island. The President reported that arrangements for the Easter Camp at Dunwich were progressing satisfactorily. The Annual Report was read by the Honorary Secretary, the Librarian's Report by Mrs. Jackson and the Financial Statement by Miss Clarke. The report of the Excursion Secretary was not available, but would appear in the "Naturalist." The nominations for the election of officers were one less than required, and the vacancy was filled by appointment by the Council; the result is shown on the inside front cover. Mr. Barker remained in the chair as the new President was absent. There was some discussion on publicizing the Club's activities. Mr. Barker then delivered his Presidential Address on "Bird Migration." Mr. J. E. Young forwarded some notes on birds which are not migratory and are not usually regarded as flock birds. Mr. Wetherell exhibited an embryo kangaroo, a humming bird and an egg of the jacana. Miss Earnshaw exhibited the fruit and leaves of the jak-fruit. Miss Cock exhibited the nest of a trapdoor spider, Miss Sandercock a fern with an unusual modification of part of the frond and Dr. Marks a flowering twig of **Buckinghamia celsissima.** A letter from Mr. Trevor Hunt was read, stating that his "Census of South Queensland Orchids" was available.

EVENING MEETING, 15th March, 1948.—The President, Mr. J. H. Simmonds, occupied the chair and about

50 members were present. Mr. and Mrs. R. S. Harley, Miss Stewart and Mr. Kelly were elected to ordinary membership and Mr. Manski and Mr. Quinn to country membership. The excursion to Mt. Coot-tha was reported upon by Miss Coxon, Dr. Marks, Mr. White and Mr. Dunn. Mr. F. A. Perkins gave an address on "Insects." Dr. Marks tabled a mud nest and some leaves affected by galls. A stinkhorn fungus from Ipswich was tabled by Mr. White. Miss Williams exhibited a strange flower of a species of wandering jew. Mr. J. C. Smith exhibited an assassin bug and the flower of a finger-lime. Miss Marks tabled a series of photographs of a moth feeding from a small bottle. Mr. K. Harley showed photos of a brown honey-eater.

EVENING MEETING, 19th April, 1948.—The President, Mr. J. H. Simmonds, occupied the Chair and about 50 members were present. Mr. Barker spoke on the arrangements for a visit to Mt. Glorious on Monday, 26th April, and Mr. White on those for the May Day week-end to Point Lookout. The greater part of the meeting was devoted to reports on the Easter excursion to Dunwich. Mr. J. C. Smith gave the general report. Dr. Marks spoke of the geology, Miss Coxon discussed the birds, Mr. Simmonds spoke of the marine life and Mr. Dunn read an account of the orchids written by Mr. Hunt. Mrs. Jackson spoke about some shells she exhibited from the island and Miss Marks exhibited some mosquitoes from the area as well as a nest of ants found on a lemon tree. She also exhibited caterpillars taken from an orange tree, a bot-fly and an assassin bug. On the motion of Mr. Harley and Miss Sandercock, it was moved that a request be made that Dunwich be proclaimed a sanctuary or a national park. Mr. Harley exhibited a spray of leaves and fruit of the Madagascar Plum (*Flacourtia cataphracta*). A specimen of the pink lotus lily (*Nelumbium speciosum*) was exhibited by Mrs. White. Mr. Rowley tabled some photographs taken on former Easter excursions.

EVENING MEETING, 17th May, 1948.—The Chair was occupied by the Vice-President, Mr. J. C. Smith, and about 50 members were present. Mr. and Mrs. Stuart, of Highgate Hill, Misses White, of Clayfield, and Miss Dunn, of West End were elected to ordinary membership; Mrs. Walker was elected to country membership. The excursion to Mt. Glorious on Labour Day was reported on by Mr. White (botany) and Miss Coxon (ornithology). Mr. L. Wassell gave an address on a collecting trip in Cape York Peninsula, illustrated by lantern slides. An ivory nut from the Solomon Islands was tabled by Mrs. Stuart and discussed by Mr. White. Mr. White also exhibited, on behalf of Mr. Bray, a specimen of the woolly foxglove, *Digitalis lanata.*

ANNUAL REPORT FOR THE YEAR ENDING FEBRUARY, 1948.

Ladies and Gentlemen,

The Council of the Queensland Naturalists' Club presents the Annual Report of the work of the Club.

As usual, Natural History pursuits have been carried forward during the year at evening meetings and field excursions.

MEETINGS.—There have been ten evening meetings, thirteen field excursions and six Council meetings during the year. Attendances at Council meetings has been as follows: Mr. Barker, 3; Mr. Simmonds, 3; Mr. Smith 5; Miss Baird, 6; Mrs. Jackson, 2; Miss Clarke, 6; Dr. Marks, 4; Mr. White, 6; Mr. Jackson, 3; Mr. Mack, 3; Mr. Blake, 3; Mr. Sanderson, 2. Attendances at evening meetings has been good, the average being fifty-two.

Instructive and interesting lectures on many aspects of Natural History have been given by many lecturers, including Dr. Whitehouse, Mr. White, Mr. Brimblecombe. Mr. Mack and Mr. Bryant. Reports of the Easter Excursion were given at the April meeting. Beautiful films from the Department of Public Instruction were shown and two evenings were devoted to exhibits.

MEMBERSHIP.—The Club has suffered the loss by death of two of its members, Prof. Richards and Dr. Turner. Twenty-one new members have been elected and seven have resigned. Membership now stands at 182—four honorary members, 143 town members and 35 country members.

NATURE LOVER'S LEAGUE.—Very little work in this direction has been done.

"QUEENSLAND NATURALIST".—Two issues of the journal have been published

GENERAL.—A complaint about the removal of the fence from the Bora Ring at Nudgee was sent to the Lord Mayor by members of this Club. Since then it has been reported that another fence has been erected.

In September last visiting members of the R.A.O.U. were entertained by the Club at afternoon tea at the Sandgate Kiosk after a guided tour round both Lagoons, and many of the visitors attended the Bird Meeting of the Club on the same evening at which Mr. C. C. Bryant, Hon. Editor of the "Emu", gave a very interesting talk on his Bird Hunting Experiences with his camera and showed a number of slides from his own photographs which greatly added to the interest of the lecture. Some four members attended the R.A.O.U. Congress on Tuesday at the Chamber of Commerce Rooms and later joined the Camp-out at Binna-Burra where a very enjoyable and instructive week's observations were held.

The Club was represented in a deputation to the Government protesting against a proposal to construct motor roads in National Parks.

E. E. BAIRD,
Hon. Secretary.

REPORT ON EXCURSIONS, 1947

With the War over, one might have expected conditions to be more favourable for the Club's excursions, but this was not so. Lack of transport facilities limited the places which could be reached and having no tents was also a great handicap.

Owing to the latter, only one long excursion was attempted, this being to Somerset Dam. Thanks to the Chairman of the Board of Control, the Club was granted the use of the barracks and kitchen, with a dining hall. Some fifty members availed themselves of the opportunity to visit this interesting area, situated near the head of the Stanley River in mountainous country. The majority travelled by train to Esk and were transported by motor lorry over the remaining twelve miles to the Dam.

All sections of the Club's activities were well catered for. The geologists, under Dr. Dorothy Hill, found much to interest them. The botanists, under the guidance of Mr. S. Blake, walked long distances, returning with their collections. Ornithologists and entomologists reported good hunting and everyone voted it a well worthwhile visit.

Camp Mountain, about twenty miles from Brisbane, on the Dayboro line, was visited twice during the year, members being the guests of Dr. and Mrs. Marks, to whom the Club is very grateful.

This large area, with its swamps, creeks, valleys and hills and the Samford Range in the background, is a familiar and ever enjoyable hunting ground for our members. Most notable features of the district are the two well preserved Aboriginal Bora Rings, to which visits were made.

Another interesting excursion was a visit to the experimental farm of "Drug Houses of Australia" at Thornland, where plants are grown for the purpose of manufacturing medicinal drugs. The manager, Mr. Bray, led our party and explained the uses of the plants, particularly mentioning *Duboisia*, from which hysocine and hyosciamine is derived and *Nicotiana rustica*, which supplies nicotine sulphate used in insecticides for apicultural purposes.

Other excursions were to Wellington Point, Mt. Coot-tha, Eudlo for a week-end, Reserve at Newmarket, Holland Park and Sunnybank. A few members joined with the "Save The Trees Campaign" in a visit to Beerwah in October and in May some went with the National Parks Association to Cunningham's Gap.

The varied interests of these localities amply rewarded all those who studied them.

G. H. BARKER.

REPORT OF HON. LIBRARIAN FOR 1947

Our Library being rather a small one, owing to lack of space, there is not a great deal to report.

Magazines are, as usual, the publications mostly borrowed by those members who use the Library, and about 162 went out during the year.

Not being able to accommodate many books, those we have soon become rather familiar to members, and only 27 of these were borrowed last year.

Overseas exchanges are now operating more normally and many scientific publications, missing during war years, are beginning to make their appearance.

Donations in book form have been received during the year from Miss Baird, Miss Marks and Mr. Barker, to whom is expressed our deep gratitude for their generous gifts.

E. M. JACKSON,
Hon. Librarian.

PRESIDENTIAL ADDRESS—MIGRATION OF BIRDS

By G. H. Barker.

From the earliest times the coming and going of the birds as the year changes, has been noticed and studied by man. Even in the Bible references can be found to the regular movement of hawks, cranes, storks and swallows and other birds are quoted as examples of steadfastness. In his writings, Homer compares armies to the great flight of cranes, etc. In later times much legend and pure fiction were woven round the seasonal movement of some birds. Not a little superstition was engendered in parts of England over the regular arrival of their cuckoo. Swallows were said to hibernate because they would be seen congregating in reed beds one day and by the next would have vanished. Today, however, due to long years of scientific study, guess and superstition have gone, giving way to absolute facts based on clear evidence, and out of this has come the knowledge of the great natural phenomena of the annual migration of many species of birds, dramatic in its manifestations and one of the wonders of life which is not altogether confined to the avian world. Curiously enough, migratory movements of birds in the Southern Hemisphere, always excepting the great land mass of South America, are not nearly so evident or extensive as are those of the northern half where the seas and lands of America, Asia and Europe present such diverse conditions of mountain, plain and stream, that a most intricate pattern of summer and winter migration is a consequence. In the British Isles, the annual movement both north, south and east and the regular return movement during the other half of the year, is most extensive, both by day and night. Some birds visit England in the winter, journeying from the colder countries in the north, such as Scandinavia, Russia, Iceland and even from Greenland. Others leave the British Isles at the same time, making for Southern France, Spain and Italy, whilst others like the swallows journey right across to Africa. Much careful study has been made of these annual flights and this work has been carried out quite systematically in three ways. One by direct observational evidence, which deals with the mass movements of birds by many watchers at widely different and carefully selected vantage points, chiefly at lighthouses and at islands like Heligoland and other lonely islands round the coasts of England and Scotland.

The second method is the marking method, which in England and Europe is carried out in an intensive and systematic manner. The third is by experiment, in which trial is made of various deliberate changes in the conditions effecting particular birds.

Observation largely depends on opportunity. On the coast it is often possible to witness actual arrivals and departure. In favourable positions day and night, evidence of the vastness of bird movement in these regions can be obtained. The classic example of a migration observatory is the island of Heligoland, which, up to the time of the last War, provided some wonderful accounts of mass movements of birds and was the scene of the life-long work of Heinrich Gatke, whose records were the first comprehensive data on this subject. Not the least aid to his study was the brilliant lighthouse that is in operation on that island. At night time during the season of migration vast flocks of birds can be seen moving through the beams of the light and many dash right into the lighthouse itself, dazzled by the strong light streaming from it. Another famous German station is at Rossitter on a narrow isthmus in the south-eastern corner of the Baltic Sea. Here a long stretch of straight beach running in the same direction as the annual migration from the north of Europe to England and southern France, gives excellent opportunities for observers. Early in October, with its promise of the oncoming winter of the northern Hemisphere, birds of many kinds move south and west from their feeding and nesting grounds of the previous summer. Every minute or so flocks of hooded crows, rooks and jackdaws pass, all flying steadily and quietly at distances of 100 to 300 feet, some flocks numbering up to 100 individuals; one lot would hardly be past before another would be coming. It was calculated that 2,000 birds passed in every hour from daylight to midday.

On the following days the numbers were even larger, all on the same settled routes and all moving unhurriedly. On the later days other birds joined the throng, larks and finches low to the ground, woodpigeons at greater heights and greater speeds, and over all predatory birds of the hawk family took toll of stragglers.

Similar great flights have been recorded from many islands and lighthouses in the British Isles. Two ladies watched from the lighthouse on the Isle of May in the Firth of Forth one night or early morning from midnight to 3 a.m. and, although hampered by frequent rain storms, recorded big rushes of warblers, wheatears, winchats, redstarts, goldcrests and pipits. The lantern has four rays at right angles and the birds flew through the beams which portrayed them without bewildering them or causing them to dash into the lantern as so often happens at other places. Added to the fascination of these waves of tiny birds, the brilliance of the light turned them into gold and tempted many to break into song. Early the following day the observers were out on the island to see what was to be seen and found huge numbers of those identified the night before and many others, resting all over the island. On other days the same ladies on the same island saw daylight flights coming and often passing without stopping, flock after flock as far as the eye could see. Among these were redwings, fieldfares, thrushes and blackbirds.

Norwegian cranes and storks fly direct from Scandinavia to North Africa, often at great altitudes, and have been recorded crossing the Gulf of Iskanderun on the north-east corner of the Levant at almost water-level, all in small flocks and at a leisurely pace, then massing on the southern shore and again mounting spirally to get sufficient elevation to cross the hills in the direction of Aleppo. As a contrast to this tropical journey the movement from Greenland is recorded by Mr. Spencer Chapman, who states that on October 10th the sea round Ailsa, which up to then had seen few if any sea birds, was suddenly alive with little auks and guillemots massing for the journey south and in two days they had gone. From many other favourable places on the globe, similar stories are chronicled. From the Argentine they have almost a three months' movement twice a year. Northern birds from the U.S.A. and Canada which visit them in the southern summer go back north to feed and breed in the summer of that hemisphere, whilst birds from Patagonia and the Cape Horn region come north to the mild winter weather of the Argentine tropics.

There is nothing like such vast or regular movements in the Australian region, with the exception of our waders. Some of these journey to Siberia and China and the smaller ones to the Malayan or Indonesian regions and the islands in between. One of our dotterels does an east-west journey to New Zealand, though why, no one seems to know.

In the cold seas of the southern Hemisphere, we have the flightless migration of the different species of penguins to their breeding grounds in the far south in what passes for summer in those regions. Most of the year they spend at sea in latitudes north of the Great Ice Pack but regularly each spring the Adelie penguin crosses this Ice Barrier many miles in width to reach Cape Adair on the Southern Land Shelf and other similar situations containing pebbly beaches, as no self-respecting Adelie would build a nest of anything but round pebbles. Some of the smaller penguins migrate from the open ocean to the mainlands of South America, South Africa and Australia. The royal penguin patronises Macquarie Island and the Falklands for the breeding season.

The strangest story of the lot however, is that of the giant emperor penguin, a handsome, upright bird standing nearly 48 inches high. Because of its long breeding season, it has to start nesting in winter in the furthest south position of them all where blizzards and storms are their daily portion as either bird stands upright in the freezing weather nursing its one large egg in a peculiar but providential external cavity in the lower portion of abdomen between the flippers. The egg when laid is hastily transferred to that receptacle as any delay would mean an immediate freeze to the ice on which they stand and the end of the egg biologically. As the egg is nursed or incubated for about two months, both parents take a hand. Some careful team work and faultless technique is necessary during the changeover operation or the fearful cold immediately ruins the chick's chance of a successful hatching. After the precarious hatching comes a precarious rearing of the chick. As might be expected, due to these awful nesting conditions, the mortality among eggs and chicks is very considerable with the result that many of these large birds are deprived of their chance of offspring early in the piece and their parental instinct, which is always very strong, is frustrated. This means that any chick that strays in its early days is at once the target of affection of all the bereft parents near it, the result being that before the poor chick is safely attached to any one of them, it has become just another casuality. However, despite all these rigours the race of emperors flourishes and they continue to be the most marvellous migrants of the whole bird-world.

In Australia the annual bird migration is not nearly as spectacular as those of the northern climes, but none the less there is quite a movement north and south each year as the seasons change. As mentioned earlier, the greatest movement is among our waders, nearly all of whom make off north in the autumn. Sea-curlews, whimbrels, some dotterels, sandpipers, stints, one of our species of snipe and possibly others not yet recorded, journey to Siberia, China, Thibet, Mongolia, the Gobi Desert (Emu, vol. 32, pp. 287, etc., 1933). In Australia there is a good deal of nomadic movement among certain Australian birds such as our brush-tongued parrots, which is dependant on the occurrence of food supplies in different areas and is not regarded as a migration. Certain seabirds, including gulls, terns and penguins, follow in this way travelling shoals of fish, which sometimes disappear as they come north, often leaving the following birds in dire straits as a result. Among other birds that move north each autumn either to North Queensland or to New Guinea and the Malay Archipelago are rock and fruit pigeons, rollers or dollar birds, some kingfishers, rainbow birds, swifts, all cuckoos except the pheasant coucal, swallows, flycatchers, some robins, fantails, trillers **(Lalage)**, reed warblers, wood-swallows and some honey-eaters. The movement of some of these birds is most regular and the arrival and departure of such birds as the koel cuckoo can be named almost to a day in the middle of September for arrival in the Brisbane area and the middle of March for the return north. Not all members of these migrating families of birds move off in the general movement, because even as far south as Port Phillip representatives of our different waders can be found right through the year. Why this should happen, or why some of them should move east and west and not make the usual north and south movement, or why they should move at all or so far, still remains a mystery despite the long and careful observation made by many observers here and abroad. Various reasons are advanced. The disappearance of suitable food in many climes as the winter of that region advances can be readily accepted in the case of most birds. But whilst this fact can be admitted, how are we to account for the young birds within a year of the nest knowing of this need to move far in order to have food which will disappear from the place of its nativity and, not only that, have the knowledge of how far to go and in which direction to arrive at its destination? Qualified observers say that young birds among migrants invariably move off first and without any seniors as guides, and that these seniors usually travel later. Let us take the case of the American golden plover which nests in the short summer of Northern Canada along the Arctic shores of that region. After nesting, the old and young journey south east to Labrador to linger and feast on the prolific berry crops of the autumn in that land in order to build up for their long ocean journey of 4,000 miles to the north east portion of the South American Continent. Before starting, they move off in mass to Nova Scotia, and late in the northern season undertake that tremendous journey to Brazil. Then, by easy stages, to the southern summer in the Argentine. On their return journey, the route is varied as they proceed north in the Andes region thence along the land bridge through Panama and Mexico, though some of them here go straight north from Yucatan across the western end of the Gulf of Mexico, and both lots then uniting for a leisurely journey up the Western States to Canada, delaying their pace if necessary to keep behind the wintry conditions moving ahead of them to the north. Our golden plover does the same tremendous journey from Australia to Siberia, but escapes the long and arduous ocean flight by the use of the land bridges occuring on this route. Although here again there are variations, for some of these birds have been found in the Midway Islands and the Hawaiian-Samoan Groups and as far east as the Low Archipelago. To reach these points long and hazardous sea journeys equal in extent to those of their American cousins have had to be undertaken. How these birds can navigate to these small landings in the vast Pacific Ocean can only be wondered at, it cannot be calculated. One therefore leaves the subject of bird migration in a defeated mood, realising that all we know of it as yet, merely leaves us on the fringe of knowledge of the subject and the impression that we will never know all that there is to be learned about it.

AUSTRALIAN NEUROPTERA

By M. J. MANSKI, Marybrough

Stilbopteryx brocki, n.s.p.

Total length: 53 mm. Abdomen: 40 mm. Forewing: 40 mm. by 13 mm. wide. Hindwing: 37 mm. by 12 mm. wide. *Head*: Epicranium dark brown with greyish–white hair, thick. *Antenna*: Black with yellow annulations, tip of antenna pitchy-black; antenna surrounded at base by long black hair. *Eyes*: Slight greenish tint. *Face*: Yellowish; mouth parts, brownish. *Thorax*: Dark brown, sparsely covered with soft greyish-white hairs, sides and underside densely clothed with long greyish–white hairs. *Legs*: Black, long black hairs, tibia spined; claws prominent; spurs longer than base of tarsal joint; 1, 2, 3, 4 tarsal joints together as long as 5th; femora and tarsi with long black hairs inclined to be bristly. *Abdomen*: Dark brown; 1, very short; 2, short, expanding to 3; 3, very long, swollen dorsally, humped, hairy; 4, shorter than 3, swollen dorsally, hump at highest peak in middle, hairy; 5, slightly longer than 4, but not as long as 3, dorsally swollen, tapering to 6, which is narrow and shorter than 5; 7-8 narrow, hairy, equal in thickness to 6, but each slightly shorter, hairy; 9, very short hairy. *Appendages*: Black, hairy. *Wings*: Hyaline, veins black, pterostigma with a dark brown spot enclosing 3–4 veinlets; 1 forked. *Forewings*: Near base, black starts but only extends 3 mm. and does not continue to Costal and Subcostal spaces.

This species differs from other species, in that it is uniform in colour without yellow markings on abdomen, wings being almost free from black band that fills the whole costal and subcostal spaces. The shape of the wings also differs entirely from those of other species.

Habitat : Kalpower, Queensland, January, 1945. Type in collection : Manski.

Towards the end of January, 1945, I received, amongst a number of Neuropterous insects, this specimen that I readily perceived was a new species, and I have much pleasure in naming it after Mr. S. Brock, who captured it and sent it to me.

OBERONIA MUELLERIANA Schltr.

(= *O. iridifolia* F. Muell. Fragm. v., 96 (1865); Fitzg. Austr. Orch. II., 3 (1888); not of Lindley)

By the Rev. H. M. R. RUPP, Northbridge, N.S.W.

Mueller, in recording this plant (l.c.) on the Brisbane River, appears to have felt some doubt as to its identity with the species described by Lindley in Gen. and Spec. Orch. (1840), 15, for he says, "O. iridifolia *nisi species propinqua* ad flumen Brisbane's River nota." (The italics are mine.) Bentham, however, accepted his determination, and it passed unchallenged for more than forty years. In 1907, however, Shlechter, in Engler's Bot. Jahrb. xxxix., 61, published the combination "*O. muelleriana*, based on *O. iridifolia* Fitzg. Austr. Orch. ii., 3, non Lindl." He gave no explanation of his action. Fifteen years later, in the same publication, lviii., 63, he used the combination *O. fitzgeraldiana*, based on the same reference. Again no explanation was given, nor can I trace any subsequent allusion to the subject by him.

Obviously, however, Schlecter considered that our Australian plant, so long known as *O. iridifolia*, is not identical with Lindley's species, and must receive another name. I have made careful investigations into the matter, with the result that I am convinced of the correctness of Schlecter's opinion. I can find no sound reason, however, for his suppression of the combination *O. muelleriana* in favour of *O. fitzgeraldiana;* and I therefore propose that in future this plant, admirably figured by Fitzgerald, l.c., be known as *O. muelleriana* Schltr.

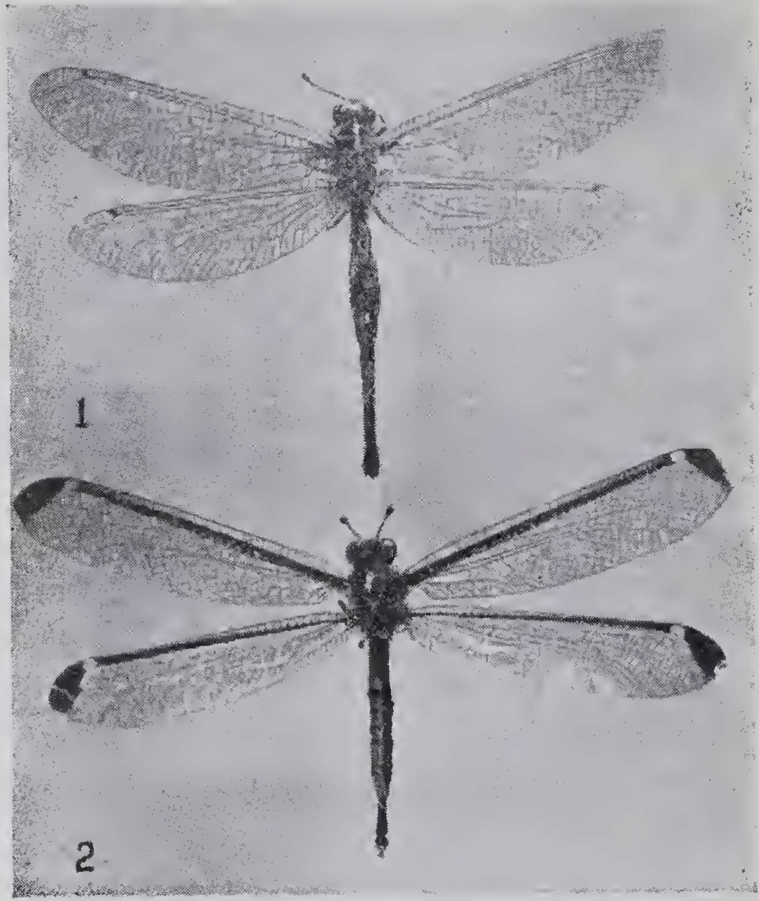
Lindley's description of *O. iridifolia*, l.c., is very brief; but even so, it includes features which are not characteristic of our plant. The following is a free English translation. "Leaves broadly ensiform, raceme long, many-flowered, two-edged at the base, flowers verticillate, bracts fimbriate, sepals reflexed, petals eroded, labellum sub-ovate, obtuse, fimbriate, concave at the base, very obscurely 4-lobed." I can only interpret this allusion to four lobes as referring to the deeply bifid apex of the mid-lobe of the labellum.

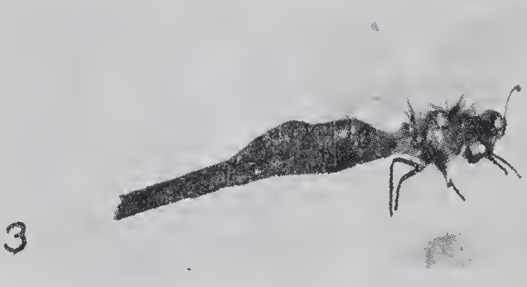
This description is considerably expanded by King and Pantling in Ann. Bot. Gard. Calcutta, Part I., Vol. viii. (1898), where it is accompanied by a full-page plate. The text is as follows: "Stem short. Leaves broadly ensiform, acute, 2-10 inches long and .25-1 inch broad. Inflorescence longer than the leaves, decurved;

peduncle winged, ebracteate; spike twice (sometimes three times) as long as the peduncle; rhachis rather slender, densely-flowered, floral bract minute, elliptic, obtuse, coarsely erose, convolute round the sessile ovary. Flowers minute (.06in. long), sub-verticillate, pale green or yellow. Sepals and petals sub-equal, ovate, reflexed and resting on the ovary, the former entire, the latter erose. Lip orbicular, indistinctly 3-lobed, the side lobes pectinate, erose, the terminal lobe broad, transversely oblong, deeply and bluntly emarginate at the apex and coarsely erose. Capsules broadly ovoid, sessile."

The plate accompanying this description shows a plant which, even allowing for variations, can scarcely be reconciled with that figured by Fitzgerald. A coloured plate in Bot. Mag. lxxvi., t. 4517, though superficially more like our Australian plant, also differs in important details. The distinctions between the two, as they appear to me, may be tabulated as follows:—

O. iridifolia Lindl.	*O. muelleriana* Schltr.
Leaves 15-20 times longer than broad, ensiform, very acute.	Leaves 6-10 times longer than broad, linear-oblong, obtuse or very shortly acute.
Peduncle flattened and winged, without any bracts.	Peduncle flattened and winged, with 1 or 2 scarious bracts.
Flowering spike twice or three times as long as the peduncle	Flowering spike rarely twice as long as the peduncle, and often shorter.
Floral bract elliptic, obtuse, coarsely erose, convolute round the sessile ovary.	Floral bract ovate, denticulate or sometimes nearly entire, not convolute round the ovary, which is definitely pedicellate.
Sepals and petals subequal, the former entire, the latter erose.	Dorsal sepal nearly twice as large as the laterals, which are short and very broad. Petals as long as, or even longer than, the dorsal sepal, but narrower. All perianth segments slightly and coarsely erose or undulate.
Labellum orbicular, indistinctly 3-lobed; lateral lobes pectinate, erose, mid-lobe broader than long, coarsely erose, conspicuously and deeply bifid at the apex.	Labellum almost broadly triangular, not perceptibly lobed, not deeply bifid at the apex, margins erose.
Capsules broadly ovoid, sessile.	Capsules rather narrowly ovoid, very conspicuously ribbed, pedicellate.





Stilbopteryx spp.

Fig. 1 : S. **costalis** (Newman). Fig. 2 : S. **brocki,** n.sp. (Male). Fig. 3 : S. **brocki,** n sp (Lateral view).

These differences, I think, justify the conclusion that the Australian plant is not Lindley's *O. iridifolia*. Whether the Pacific Islands form recorded under this name is really Lindley's species, or is identical with *O. muelleriana*, or is distinct from either, I cannot say, as neither material nor adequate descriptions are at present available to me.

BOOK REVIEW

A Census of South Queensland Orchids by Trevor E. Hunt. In this booklet of 18 pages Mr. Hunt lists 165 species of Orchids from South Queensland, with their synonymy and approximate times of flowering. The distribution of each species is given with localities and collectors' names, based on the collections in the Queensland Herbarium. South Queensland is taken in a broad sense, south of the 22nd parallel, thus comprising that part of the State not covered in the Check List of North Queensland Orchids (see "Queensland Naturalist," Vol. 13, No. 1, p. 19, 1946). It is a matter for regret that closer attention has not been paid to the arrangement of the names; as printed, it appears as though the specific epithets were names in their own right and, while this reflects the practice of some botanists, it is none the less to be deplored. However, such a check-list will undoubtedly be of great interest to nature-lovers generally, and in particular to everybody who is interested in native orchids, since it not only provides a reliable source of reference and synonymy, but also precise locality records for all species dealt with. —S. T. B.

Fairy Wrens by A. H. Chisholm, is a delightfully written account in the form of a dialogue, of the Fairy Wrens of Australia. Fourteen species of these "little birds with the stickyup tails" are distributed over Australia; some are widely distributed while some are very restricted in their occurrence. The quaint form of these dainty little birds, their brilliant colouring, their vivacity and their elusiveness have intrigued naturalists since the Blue Wren was discovered by William Ellis in Tasmania in 1777. The adult males are characterised by their brilliant plumage, chiefly of shades of blue, though red, black and white occur in different species. The females are chiefly brown. The young males are much like the females in appearance and this has given rise to the belief that the birds are polygamous, but it appears to be certain that, at least usually, the male bird is monogamous, but that the families keep together for long periods; the young birds sometimes assist their parents with the rearing of the next brood. The book is illustrated by a number of photographs and a coloured plate showing all the species.

—S.T.B.

OBITUARY

Dr. Alfred Jefferis Turner was born in China in 1861. Educated in England, he graduated M.D. at the University of London in 1886. He came to Australia in 1888.

As a boy he was a keen collector of insects and influenced by Meyrick he decided on coming to Australia to devote most of his attention to the Lepidoptera. He was an ardent field naturalist and during his career collected Lepidoptera in all States of the Commonwealth and New Zealand. Eventually, he became a world authority on the Australian Lepidoptera. He was a member of the Queensland Naturalists' Club for very many years and was a foundation member of the Entomological Society of Queensland. He tended to concentrate on the Micro-Lepidoptera and his patience in mounting these rather difficult little specimens was admired by all who watched him. He built up a magnificent collection, which is now housed in the National Museum at Canberra.

Undoubtedly, he was one of the outstanding field naturalists of our times and his death on December 29, 1947, is a distinct loss to all those with whom he associated. He was largely responsible for the section on Lepidoptera in Tillyard's "Insects of Australia and New Zealand."

—E.N.M.

QUEENSLAND NATURALISTS' CLUB

STATEMENT OF RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING 31st DECEMBER, 1947.

RECEIPTS

…………	£	s	d	£	s	d
Balance forward from Dec. 31, 1946				75	10	2
Subscriptions …… …… …… …… ……				82	5	0
Donations …… …… …… …… …… ……					7	0
Sales of Qld. Naturalist …… …… ……					10	0
Surplus from Easter Camp …… ……	10	13	3			
Surplus from Camp Mt. …… ……		4	0			
				10	17	3
Interest on Bank Account …… ……				1	13	4
				£171	2	9

£40 in War Savings Certificates held by George St. Branch of Commonwealth Bank. Receipt held by Hon. Secretary.

31/1/48. C. W. HOLLAND, Hon. Auditor.

EXPENDITURE

	£	s	d	£	s	d
Rent Women's Club …… …… …… ……				15	12	6
Insurance on Books & Library ……					2	3
Telephone A/c …… …… 5 6 1						
5 12 7						
	10	18	8			
Less refund by Miss Baird ……	5	7	0			
				5	11	8
Petty Cash (includes £11/18/3 postages) balance for circulars, etc.				15	0	0
Library—						
Subscription to "National Geographic" … …				1	12	10
Clark and Mackay—						
Stationery …… …… …… ……	1	5	6			
Printing Subscription Notices ……	1	7	0			
Printing "Naturalist" …… ……	42	9	9			
				45	2	3
Honorarium to Hon. Secretary				5	0	0
Suppers—R.O A.U Melbourne and Miss Baird's 21st year of service as Hon. Secretary to Club ……				4	13	3
Balance on hand as per pass book				78	8	0
				£171	2	9

	£	s	d
War Savings Certificates …… ……	40	0	0
Bank Balance …… …… …… ……	78	8	0
Total balance …… …… ……	118	8	0

This includes £43/1 2 for Nature Lovers' League.

H. CLARKE, Hon. Treasurer.